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Minutes – Legal Committee Meeting

To: NCPA Legal Committee
From: Linda Stone
Subject: November 4, 2021, NCPA Legal Committee Meeting Minutes

1. Call Meeting to Order and Roll Call

The meeting was called to order at 8:35 a.m. by Chair Barry DeWalt. At the time of roll call, the following members were present by telephone:

Alameda-Alan Cohen, Biggs-Gregory Einhorn, Lompoc-Joe Pannone, Palo Alto–Amy Bartell, Plumas-Sierra-Michael Vergara, Port of Oakland-Leah Goldberg, Redding-Barry DeWalt, Roseville-Joe Mandell, and Santa Clara-Caio Arellano. A quorum was present.

Also participating in the meeting were NCPA General Counsel Jane Luckhardt, NCPA General Manager Randy Howard, NCPA Legislative and Regulatory Assistant General Manager Jane Cirrincione, NCPA Power Management Assistant General Manager, NCPA Customer Programs Manager Emily Lemei, and NCPA administrative support Linda Stone.

2. Public Comment

The Chair read the notification regarding Public Comment and asked if any member of the public would like to address the Committee. There was no public comment.

3. Meeting Minutes

NCPA staff reported that the Legal Committee did not establish a quorum for its noticed meeting on September 29, 2021.

Closed Session

The Committee went into Closed Session at 8:37 a.m.

4. Conference with Legal Counsel – existing litigation pursuant to Government Code Section 54956.9(d)(1) – two (2) cases

- a. Case Name: *Northern California Power Agency, City of Redding, City of Roseville, and City of Santa Clara v. the United States, United States Court of Federal Claims No. 14-817-C.*
- b. Case Name: *Voluntary Petitions for Filing of Chapter 11 Bankruptcy, PG&E Corporation, Debtor, and Pacific Gas and Electric Company, Debtor, United States Bankruptcy Court, Northern District of California, San Francisco Division, jointly administered under No. 19-30088.*

5. Conference with Legal Counsel – anticipated litigation pursuant to Government Code Section 54956.9(d)(2) – one (1) case.

The meeting reconvened to Open Session at 9:08 a.m.

6. Report from Closed Session

Chair Barry DeWalt advised that no reportable action was taken during Closed Session.

7. 2025 Western Base Resource Contract and Associated Agreements

In anticipation of NCPA's execution of the 2025 Base Resource contract (BR) with the United States Department of Energy Western Area Power Administration, Jane Luckhardt discussed with the Committee two associated agreements which will enable NCPA to receive Member assignments. The Operations and Maintenance (O&M) governance board would like to submit and obtain approval for operations and maintenance projects extending into 2025 and beyond. A framework is needed for 2025 and beyond since NCPA is only authorized to represent the Pool Members through the end of the current contracts. The next meeting of the governance board is set in the August-September 2022 timeframe. That meeting date is driving the overall timing for approval of the agreements.

- a. Assignment Administration Agreement (AAA). A new AAA is needed for administration of the 2025 BR. The AAA will need to be approved by each assigning member.
- b. Request for Assignment of the 2025 BR. Once NCPA has executed the 2025 BR, NCPA can accept assignments by executing individual Requests for Assignment. NCPA and members will be required to execute the AAA prior to accepting assignment to ensure assigning members accept financial responsibilities of the assignment. A sample assignment agreement was provided for review.

Jane reported that Tony Zimmer has been working to develop the updated AAA to make all agreements consistent. As currently drafted, the AAA will require a unanimous vote of all Pool Members. The drafts of the agreements are expected to be dispatched to the Legal Committee members for review very soon. Jane said historically 10 Pool Members have made assignments to NCPA. Jane said she could set up an ad hoc committee for those interested in review and comment of the AAA, or conduct at a full meeting. Final approvals by the governing bodies are requested by August 2022. Tony is still targeting NCPA approval at the December 2, 2021 Commission meeting, but noted that is not absolute. If that goal is not made, there is still time to make the timing work. There was unanimous agreement among the Legal Committee members present for discussion of the AAA through an ad hoc committee. The BR AAA ad hoc committee consists of Alan Cohen, Greg Einhorn, Joe Pannone, Amy Bartell, Mike Vergara, Leah Goldberg, Janice Magdich, Tony Zimmer, and Jane Luckhardt. An ad hoc committee meeting was set for November 19, 2021, at 8:30 a.m.

8. Electric Vehicle Infrastructure Planning: Proposed Memorandum of Understanding California Electric Transportation Coalition Regional Charging Network.

Jane Luckhardt advised the Committee about a proposed Memorandum of Understanding (MOU) among LADWP, NCPA, PG&E, SMUD, SDG&E, SCE, and SCPPA to promote coordination and cooperation on charging infrastructure optimization. Emily Lemei provided additional information to the Committee. SMUD prepared the initial draft of the MOU for comment. There is no requirement to sign the MOU, but it demonstrates collaboration on infrastructure charging coordination, especially along the corridors of freeways. A target goal is for charging to be available every 50 miles anywhere a truck is driving. Leah Goldberg said the Port is very interested in supporting charging along the corridors. Following the meeting, a copy of the initial draft of the MOU will be sent to all Legal Committee members for review. Emily said SMUD estimates that the MOU will be finalized in the next two weeks or so.

9. Proposed Legal Committee Meeting Schedule for 2022

A proposed calendar of regular meeting dates was presented for 2022. Alan Cohen (Alameda) made a motion to approve the meeting schedule as presented; seconded by Joe Mandell (Roseville). There was no discussion. A roll call vote was taken, as follows. The motion passed.

Vote Summary on Motion	
Participant	Vote
Alameda Municipal Power	Yes
BART	Absent
Biggs	Yes
Gridley	Absent
Healdsburg	Absent
Lodi	Absent
Lompoc	Yes
Palo Alto	Yes
Plumas-Sierra	Yes
Port of Oakland	Yes
Redding	Yes
Roseville	Yes
Santa Clara	Yes
Shasta Lake	Absent
Truckee Donner PUD	Absent
Ukiah	Absent
Vote Summary	
Total Yes	9
Total Noes	0
Total Abstain	0
Total Absent	7
Result:	Pass

10. General Counsel Updates

There were no new updates.

11. Adjournment

The meeting was adjourned at 9:02 a.m.

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER
AGENCY, ET AL., Plaintiffs,

v.

THE UNITED STATES, Defendant.

No. 14-817C
(Judge Tapp)

**PLAINTIFFS' MOTION FOR SUMMARY
JUDGMENT OR PARTIAL SUMMARY
JUDGMENT**

This is an overcharge case in which the Government's liability has been established, leaving only the question of how much the Government should pay in damages. Pursuant to the Court's December 9 Order¹ and RCFC 56, plaintiffs move for partial summary judgment in their favor and against defendant United States, with respect to the methodology and inputs to be used in calculating plaintiffs' damages. It is undisputed that damages in this case are the difference between (1) defendant's CVPIA² mitigation and restoration (M&R) charges to plaintiffs during the damages time period, and (2) the M&R charges that the defendant should have charged had it implemented the proportionality requirements of CVPIA § 3407(d)(2)(A), 106 Stat. 4706, 4727-28.³ Plaintiffs seek a determination that the calculation of what they should have paid must

¹ ECF No. 151.

² Central Valley Project Improvement Act, Pub. L. No. 102-575, tit. 34, 106 Stat. 4706, 4706-31, Appx001 (1992) (CVPIA).

³ Joint Suppl. Status Rep., ECF No. 148. CVPIA § 3407(d)(2)(A), 106 Stat. 4706, 4727-28, Appx0022-Appx0023 provides, in relevant part, that "The amount of the mitigation and restoration payment made by Central Valley Project water and power users, taking into account all funds collected under this title, shall, to the greatest degree practicable, be assessed in the same proportion, measured over a ten-year rolling average, as water and power users' respective allocations for repayment of the Central Valley Project."

use, as the measure of proportionality, the Central Valley Project cost allocations for water and power users that were in effect when the disproportionate charges were rendered. As shown in plaintiffs' supporting memorandum and appendix, the resolution of this issue presents a pure issue of law, and the ruling plaintiffs seek comports with the rule that economic loss damages should be measured at the time of defendant's wrongdoing.

Plaintiffs are mindful of the Court's directive that "[d]ispositive motions shall be limited to the legal issues before the Court, specific to *how* damages shall be calculated and what type of amounts should be accounted for."⁴ Accordingly, plaintiffs respectfully ask the Court to rule as a matter of law that: (1) damages in this case are the difference between the charges actually imposed on plaintiffs for fiscal years 2008 through 2020 and the charges the Bureau should have imposed but for its illegal exactions, measured as of the time of the exactions using the CVP cost allocations and methods then in place; and (2) plaintiffs' reliance on the CVP cost allocation amounts and percentages shown in Joint Exhibit 2 and the Government's discovery responses is sufficient to carry their burden to compute but-for charges and damages with reasonable certainty.⁵

In plaintiffs' view, the court's ruling on those issues will effectively dispose of the entire case. As explained herein, the parties disagree over what methodology must be used to calculate damages; resolving that difference is a matter of law and does not turn on disputed facts.

⁴ Order, ECF No. 149.

⁵ The only other issue in dispute is the use or non-use of a lag period in calculating the M&R charges defendant should have charged plaintiffs had the defendant implemented the proportionality requirement of CVPIA 3407(d)(2)(A), 106 Stat. 4706, 4727-28, Appx0022-Appx0023. *See* Joint Suppl. Status Rep., ECF No. 148. A ruling that damages here must be measured at the time of defendant's wrongdoing disposes of this issue, because contrary to historical practice, defendants' damages calculation employs a two-year lag not implemented for purposes of assessing M&R charges until after the damages time period.

Accordingly, if the Court issues the requested rulings and directs the parties to meet and confer on the calculation of damages in accordance with those rulings, plaintiffs expect that the parties should be able to stipulate to the resulting damages amount. Alternatively, and in light of the absence of disputed material facts, plaintiffs believe that the Court's resolution of the methodological question could enable the Court to grant summary judgment and award damages as calculated by the relevant party. In that case, for the reasons shown in plaintiffs' supporting memorandum and appendix, plaintiffs respectfully ask that the Court grant summary judgment in plaintiffs' favor and award plaintiffs damages in the amount of \$81,872,385.

Respectfully submitted,

/s/ Lisa G. Dowden

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December 17, 2021

CERTIFICATE OF SERVICE

I hereby certify that on this 17th day of December, 2021, I caused the foregoing to be filed electronically with the Clerk of the Court using the CM/ECF system, which will send a Notice of Electronic Filing to all counsel of record. Users not registered with CM/ECF will be served by U.S. Mail or other electronic means.

/s/ Lisa G. Dowden

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IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER
AGENCY, ET AL., Plaintiffs,

v.

THE UNITED STATES, Defendant.

No. 14-817C
(Judge Tapp)

**PLAINTIFFS' MEMORANDUM IN SUPPORT OF
MOTION FOR SUMMARY JUDGMENT OR
PARTIAL SUMMARY JUDGMENT**

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allocate, American Heritage Dictionary (4th ed. 2006)32

J. Murray, *Contracts* (2d rev. ed. 1974)18

Mark A. Allen, Robert E. Hall, and Victoria A. Lazear, Reference Guide on the Estimation of Economic Damages 425, 429, *Reference Manual on Scientific Evidence* (Fed. Jud. Ctr. 3d ed. 2011)17, 20

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INTRODUCTION

This is an overcharge case¹—one in which the Government’s liability has been established, leaving only the question of how much the Government should pay in damages.

The Central Valley Project Improvement Act, Pub. L. No. 102-575, tit. 34, 106 Stat. 4706, 4706-31 (1992) (CVPIA),² requires the U.S. Bureau of Reclamation (Bureau) to impose “mitigation and restoration” (M&R) charges on Central Valley Project (CVP) water and power customers and limits the charges the Bureau can impose.³ Water users’ charges are a function of rates capped by the statute and applied to the quantity of CVP water sold and delivered each year. Power users’ charges are supposed to follow water users’ charges proportionally. Under CVPIA § 3407(d)(2)(A), 106 Stat. 4706, 4727-28, Appx0022-Appx0023, water and power users’ CVPIA charges are to be assessed in the same proportion, on a ten-year rolling average basis, as their respective allocations of CVP capital costs.⁴ In other words, if power users’ share of CVP capital costs is one third of water users’ share in a given ten-year period, then the power users’ M&R charges should likewise be one third of water users’ charges over that period.

¹ “Overpayment claims are one of the quintessential illegal exaction claims.” *N. Cal. Power Agency v. United States*, 122 Fed. Cl. 111, 116 (2015) (*NCPA*) (denying Government’s motion to dismiss).

² A copy of the CVPIA is reproduced in the Appendix starting at Appx0001.

³ In this memorandum, we generally use the term “Government” to refer to the United States in its role as defendant in this litigation and “Bureau” when discussing actions the Bureau took or should have taken regarding the allocation of CVP costs and the assessment of M&R charges under the CVPIA.

⁴ CVPIA § 3407(d)(2)(A) provides, in relevant part, that “[t]he amount of the mitigation and restoration payment made by Central Valley Project water and power users, taking into account all funds collected under this title, shall, to the greatest degree practicable, be assessed in the same proportion, measured over a ten-year rolling average, as water and power users’ respective allocations for repayment of the Central Valley Project.” CVPIA § 3407(d)(2)(A), 106 Stat. at 4727-28, Appx0022-Appx0023.

There was never any dispute that the Bureau imposed disproportionate M&R charges on CVP power customers during the relevant period; the only question for liability purposes was whether the Bureau had statutory authority to do so. The Federal Circuit answered that question when it agreed with the plaintiffs' reading of the CVPIA and held that its proportionality limitation is binding. *N. Cal. Power Agency v. United States*, 942 F.3d 1091, 1098-99 (Fed. Cir. 2019). After that ruling, there no longer could be any dispute that the Bureau's disproportionate charges exceeded statutory limits and constituted illegal exactions. The sole remaining issue is the computation of damages. Joint Prelim. Status Rep. at 1, ECF No. 120.

The parties agree that damages in this case are the difference between the M&R charges the Bureau actually charged plaintiffs and the M&R charges it should have charged them during the damages period. They also agree on what the damages period is (fiscal years 2008–2020), how much the Bureau charged water and power users during that period, and most aspects of how to calculate what the Bureau should have charged. The disputes have been narrowed to two questions: (1) what proportionality ratios the Bureau should have used to set charges during the damages period; and (2) whether power users' charges should have been proportional to water users' payments for the same fiscal year or an earlier one. Neither of those issues turns on any genuinely disputed issue of material fact. Rather, the resolution of each depends on the answer to the same question of law: whether damages should be calculated using the cost allocations and practices that were in effect during the damages period (as plaintiffs contend) or based on retroactive changes to them (as the Government contends).

Consistent with black letter law that damages for economic loss are measured at the time of the wrong, Plaintiffs' expert calculated damages by applying proportionality using the cost allocations and practices that were in effect at the time of the Bureau's illegal exactions. Most

importantly, he used proportionality ratios based on the cost allocations that were in effect during the damages period and were the basis for CVP repayment contributions assessed then. Those allocations and ratios were set forth in a joint exhibit admitted into evidence during the 2018 trial on liability⁵ as supplemented by the Government in discovery.⁶ Using those allocations, the plaintiffs' expert calculated the amounts the Bureau "should have charged" for each year of the damages period in proportion to the (undisputed) amounts paid by water users for the same fiscal year. Comparing what the Bureau actually charged to the amounts it "should have" charged, plaintiffs' expert determined that the Bureau overcharged the plaintiffs by roughly \$81 million. Appx0060 (Wright Report).

In contrast, the Government's calculations (presented through the Government's expert disclosures)⁷ violate the requirement that damages are measured at the time of the wrong. Their

⁵ Joint Trial Ex. 2, U.S. Dep't of Interior, *Bureau of Reclamation: 10-Year Rolling Average of CVP Restoration Fund (ALL YEARS), Receipts for Irrigation, M&I, and Commercial Power Central Valley Project* (Joint Exhibit 2) (Appx0027).

⁶ Joint Exhibit 2 provided the relevant cost allocations and ratios through fiscal year 2015. In response to plaintiffs' interrogatory 25, the Government provided corresponding allocations and ratios calculated on the same basis for fiscal years 2016–2019. Appx0028–Appx0029 (Defendant's Response to Interrogatory No. 25). Because the necessary data for fiscal year 2020 was not available, plaintiff's expert used a reasonable extrapolation for that year. Decl. of Wiley R. Wright III, Appx 0036; *id.*, Ex. A, Expert Report of Wiley R. Wright, III CPA, Appx053 ¶ 54, (Aug. 12, 2021) (Wright Report).

⁷ The Government's damage calculation is based upon the combined work of its three expert witnesses, Mr. Walden, Mr. Pavich, and Dr. Taylor. Expert Disclosure of William Taylor, Appx0554 (Aug. 12, 2021) (Taylor Disclosure); Supplemental Expert Disclosure of William Taylor, Appx0560 (Sept. 13, 2021) (Taylor Supplemental Disclosure); Expert Disclosure of Steve Pavich, Appx0541 (Aug. 12, 2021) (Pavich Disclosure); Supplemental Expert Disclosure of Steve Pavich, Appx0548 (Oct. 21, 2021) (Pavich Supplemental Disclosure); Expert Disclosure of Spencer Walden, Appx0537 (Aug. 12, 2021) (Walden Disclosure). Mr. Walden presents the Government's calculation, which depends in part on "the results of Mr. Pavich and Dr. Taylor's work and in part known historic data." Appx0591–Appx0592 (Defendant's Response to Interrogatory No. 30).

calculations subtract more than \$600 million from the CVP repayment costs that were assigned to water users in the allocations the Bureau prepared during the damages period and used in developing Joint Exhibit 2 and the response to interrogatory 25. These subtracted costs are amounts that CVP water users are obligated to repay for federally financed water distribution systems and certain facilities that are part of the CVP's San Felipe Division. Subtracting those costs from the water users' CVP allocations increases the power users' relative purported share of CVP costs. As a result of these and other changes, the Government's new proportionality ratios are about 25 percent greater than those in Joint Exhibit 2 and the Government's interrogatory response based on the historical allocations. The Government's retroactive changes thus increase by about 25 percent the amount the Bureau now says it should have charged plaintiffs during the damages period—and understates their damages accordingly. Using the adjusted proportionality ratios, the Government's experts calculated the power M&R charges for each year of the damages period that would have been proportional (in their view) to collections from water users during a previous fiscal year. Comparing the Bureau's actual charges to ones computed on this basis, the Government calculates that the Bureau overcharged plaintiffs by roughly \$68 million. Appx0540 (Walden Disclosure).

The parties' use of different CVP cost allocations (and resulting ratios of proportional charges during the damages period) accounts for essentially the entire difference between their calculated damages amounts. *See* Rebuttal Expert Report of Wiley R. Wright, III CPA Appx0087 ¶ 15 (Sept. 13, 2021) (Wright Rebuttal Report).⁸ The Government contends that subtracting the

⁸ The other difference in their calculations—setting power's M&R charges proportional to water charges the same year (as plaintiffs do) or an earlier year (as the Government does)—actually narrows the gap between their calculated damages. The Government's lagging calculation reflects the retroactive application of a method the Bureau adopted to calculate proportional

distribution system and San Felipe costs is appropriate because it is consistent, in their view, with a final CVP cost allocation study that the Bureau issued in January 2020—after the Federal Circuit decision in this case and after the charges at issue here were determined. But contrary to the Government’s view, the law of damages and CVPIA scheme both preclude retroactive application of the 2020 study to calculate the M&R charges the Government would have assessed had it applied proportionality during the damages period. And even if it could be applied retroactively, the 2020 study would not justify subtraction of the relevant costs.

As such, plaintiffs respectfully ask the Court to rule as a matter of law that: (1) damages in this case are the difference between the charges actually imposed on plaintiffs for fiscal years 2008 through 2020 and the charges the Bureau should have imposed but for its illegal exactions, measured as of the time of the exactions using the CVP cost allocations and methods then in place; and (2) plaintiffs’ reliance on the CVP cost allocation amounts and percentages shown in Joint Exhibit 2 and the Government’s discovery responses is sufficient to carry their burden to compute but-for charges and damages with reasonable certainty.

In plaintiffs’ view, the Court’s ruling on those issues will effectively dispose of the entire case. As explained herein, the parties disagree over what methodology must be used to calculate damages; resolving that difference is a matter of law and does not turn on disputed facts. Accordingly, plaintiffs believe that the Court’s resolution of the methodological question could enable it to grant summary judgment and award damages as calculated by the relevant party’s

charges prospectively after the Federal Circuit decision. Wright Report, Appx0049 ¶ 39. Had plaintiffs used the lagging approach to calculate what they should have paid, they would have calculated damages in excess of \$85 million. *Id.* But they eschewed that approach and instead calculated damages of \$81,872,385 in order to abide by the rule that economic loss damages are measured at the time of the wrong using the data and methods in place at the time. *Id.*

expert(s). Alternatively, and as contemplated by the Court’s November 4, 2021 order (ECF No. 149), the Court could decide as a matter of law “*how* damages shall be calculated” and direct the parties to meet and confer to “complete their own damages calculation in accordance with the Court’s Order.”

QUESTIONS PRESENTED

Black letter law holds that damages for economic loss are measured as of the time of the wrongdoing, without adjustment for later occurring events. In this illegal exaction case, the parties agree that damages are the difference between what the Government charged plaintiffs and what it should have charged them applying proportionality during the damages period (FY2008–FY2020). The question presented is whether the key determinant of damages in this case—what the Government “should have charged”—should be based on the CVP cost allocation data and practices that were in effect at the time of the illegal exactions.

STATEMENT OF THE CASE

A. Central Valley Project

The CVP is a massive water infrastructure project that includes 20 dams and reservoirs and hundreds of miles of canals spanning most of California. *Stockton E. Water Dist. v. U.S.*, 583 F.3d 1344, 1349 (Fed. Cir. 2009). First authorized in 1935 and reauthorized in 1937, the project has grown over the ensuing decades as Congress authorized additional facilities (grouped into Divisions or Units) to be built and integrated with the CVP. *Id.*; *see also* Bureau of Reclamation, *Central Valley Project Final Cost Allocation Study* (Appx0379-Appx0536), Appx0400-Appx0401 (Jan. 2020) (2020 CAS). Today, the project’s facilities and service areas extend to 35 of California’s 58 counties, and supply water to more than 200 long-term water contractors in

the Central Valley, the San Francisco Bay Area, and the Santa Clara Valley. *Id.*, Appx0387, Appx0399.

CVP facilities operate in interrelated fashion to serve the project's eight authorized purposes: water supply, power, flood control, water quality, recreation, navigation, fish and wildlife enhancement, and fish and wildlife mitigation. *Id.*, Appx0387. Two of those purposes are especially relevant here. The water supply function involves storing and delivering water to be used for agricultural irrigation (Irrigation) or municipal and industrial (M&I) purposes or wildlife conservation. *Id.*, Appx0421. The power function involves generating and transmitting electric energy that is either used for project purposes (e.g., water pumping) or sold to electric power purchasers (commercial power) by the Western Area Power Administration (Western) as agent for the Bureau. *Id.*, Appx0424. The plaintiffs are commercial power contractors.⁹ During the damages period at issue here, the plaintiffs purchased and paid for roughly 40 to 42 percent of all CVP power sold to CVP power contractors. Wright Report, Appx0043 ¶ 18; Walden Disclosure, Appx0538.

B. CVP capital cost allocation and repayment generally

Reclamation law determines how the costs of constructing federal reclamation projects are allocated and how repayment responsibilities are assigned among the projects' beneficiaries.¹⁰ Under reclamation law, project construction costs incurred by the federal

⁹ *N. Cal. Power Agency*, 942 F.3d at 1092-93; Stipulations of Agreed-Upon Facts, Stipulations ¶ 2, ECF No. 78.

¹⁰ U.S. Gov't Accounting Off., GAO/T-RCED-97-150, *Bureau of Reclamation: Reclamation Law and the Allocation of Construction Costs for Federal Water Projects: Statement of Victor S. Rezendes, Director, Energy, Resources, and Science Issues, Resources, Community, and Economic Development Division: Testimony Before the Subcommittee on Water and Power Resources, Committee on Resources, House of Representatives* at Appx0178 (May 6, 1997), <https://www.gao.gov/assets/t-rced-97-150.pdf> (GAO 1997 Testimony).

government are divided into two categories—those that will be reimbursed by project beneficiaries and nonreimbursable costs borne by the federal government. *Id.* Costs allocated to irrigation, municipal and industrial water use, and power generation are reimbursable. Appx0178-Appx0179. As the Federal Circuit explained:

The rates charged to CVP water and power customers reimburse the Bureau for the proportionally allocated costs of building, operating, and maintaining the CVP. Water customers are responsible for roughly seventy-five percent of those costs. Power customers, including the plaintiffs, are responsible for the remaining twenty-five percent. Those allocations are intended to reflect the relative benefits that water and power customers derive from the CVP. Water customers are responsible for a larger proportion of project costs because the CVP is primarily a water-focused project.

N. Cal. Power Agency, 942 F.3d at 1092.

Generally, cost allocations for Reclamation projects are first performed during project planning to estimate repayment responsibilities and decide whether a project is financially feasible. 2020 CAS, Appx0413. When construction occurs over a long time or in stages, interim allocations are performed. *Id.* The Bureau’s policy—which it has not followed for the CVP since 1975—has been to complete a major allocation of costs every 10 years and to perform updates to those allocations every 5 years.¹¹ When a project is substantially complete, the Bureau prepares a final cost allocation. 2020 CAS, Appx0413. When the Bureau issues a new interim or final cost allocation study, the new study affects water and power users’ repayment responsibilities going

¹¹ U.S. Gov’t Accounting Off., *GAO/RCED-92-74, Bureau of Reclamation: Central Valley Project Cost Allocation Overdue and New Method Needed: Report to the Chairman, Subcommittee on Water, Power and Offshore Energy Resources, Committee on Interior and Insular Affairs, House of Representatives* at Appx0153 (Mar. 1992), <https://www.gao.gov/assets/rced-92-74.pdf> (1992 GAO Report).

forward. The Bureau does not change the past allocations retroactively or revise and rebill the charges that were based on them. Appx0579 (Defendant's Response to Interrogatory No. 21).

For decades before and during the damages period in this case, CVP interim cost allocations formed the basis for the repayment component of water and power rates. In support of its annual CVP ratesetting, the Bureau every year applied the methods and cost allocation factors from its then-most-recent study to the CVP's then-current plant balances. Bureau of Reclamation, *Central Valley Project Cost Allocation Study* (May 2001) (2001 CAS) (Appx0252-Appx0378) at Appx0272; 2020 CAS at Appx0389.

The Bureau's interim allocations of CVP costs remained in place for an unusually long time. For the entire damages period in this case, the cost allocations were governed by a major study issued in 1970 and updated in 1975. *See* 2001 CAS, Appx0273. In 1986, Congress directed the Bureau to prepare a new study by 1988,¹² but the Bureau failed to do so. 2001 CAS, Appx0267 (observing that "[n]o major reallocation of CVP costs has been completed since 1975."). In 2001, the Bureau considered and rejected proposed changes to the existing allocations. 2001 CAS, Appx0296, Appx0300, Appx0334. The 2001 report "closely examined various cost allocation methods" and decided that "the existing methodology would remain in place." 2020 CAS, Appx0414. The Bureau did not issue any new CVP allocation study until January 2020, *see* 2020 CAS, Appx0387-Appx0388, two months after the Federal Circuit decision in this case. The 1970 study, as updated in 1975, thus remained in effect for roughly 50 years and throughout the damages period in this case.

¹² Pub. L. No. 99-546, 100 Stat. 3050-3056, § 102 (1986), Appx0187 ("The Secretary of the Interior is authorized and directed 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.").

C. Central Valley Project Improvement Act

In 1992 Congress enacted the CVPIA to address the CVP's environmental impact. *N. Cal. Power Agency*, 942 F.3d at 1092. The CVPIA established a "Restoration Fund" to pay for fish and wildlife habitat restoration, among other things. *Id.* at 1093. To raise money for the Restoration Fund, Congress directed the Bureau to assess several charges to CVP water and power customers, including the M&R payments at issue here. *Id.* At the same time, CVPIA § 3407(d)(2)(A) limited the amounts the Bureau could charge. Congress set dollar-per-acre-foot caps on the rates the Bureau could charge irrigation and M&I contractors for water sold and delivered. And—key to this case—it required that the payments by CVP water and power users be assessed, to the greatest degree practicable, "in the same proportion, measured over a ten-year rolling average, as water and power users' respective allocations for repayment of the Central Valley Project." CVPIA § 3407(d)(2)(A), 106 Stat. at 4727-28, Appx0022-Appx0023.¹³

D. This litigation

Instead of computing and assessing proportional M&R payments, the Bureau historically used a "power pays the difference" approach designed to maximize CVPIA collections. Under that approach, the Bureau charged power contractors each year the difference between the cap on total water and power M&R payments (which it treated as a floor) and the payments by water users for that fiscal year. The result of this policy was to impose on power contractors M&R charges out of proportion to their shares of CVP repayment responsibility. In 2014, plaintiffs filed a complaint in this Court alleging that the Bureau's imposition of such disproportionate

¹³ The statute also set an upper limit on the combined collections from water and power contractors. *Id.* CVPIA charges are not the only funding sources for CVPIA activities. As of 2017, the Bureau had obtained over \$700 million from other sources to fund CVPIA activities. Stipulation of Agreed Upon Facts, Stipulations ¶ 26, ECF No. 72.

M&R payments was an illegal exaction. The Government answered that the CVPIA allowed it to prioritize collections over proportionality and, after a trial on liability, this Court agreed and dismissed the complaint. *N. Cal. Power Agency v. United States*, 139 Fed. Cl. 74, 83, 84 (2018), *reversed and remanded*, 942 F.3d 1090 (2019). The Federal Circuit reversed that decision and held that the CVPIA requires the Bureau to prioritize proportionality over maximizing collections. *N. Cal. Power Agency*, 942 F.3d at 1098-99.

During the 2018 trial on liability, the parties jointly introduced and the Court admitted into evidence (*see* Appx0031 (Trujillo-Bixby Tr., ECF No. 89)) a joint exhibit comparing, on a ten-year rolling average basis, power and water users' relative M&R payments and respective allocations for CVP repayment. Appx0027 (Joint Exhibit 2). At trial, Government witness Gail Trujillo-Bixby agreed that Joint Exhibit 2 represented "the ten-year rolling average assessment of collections and repayment allocation[s]." Appx0032-Appx0033 (Trujillo-Bixby Tr., ECF No. 90). And she agreed that "that's what the restoration fund says in terms of how the repayment allocation should be measured for proportionality if they're on the ten-year rolling average basis." Appx0033 (Trujillo-Bixby Tr., ECF No. 90); *see also* Appx0034-Appx0035 (Mooney Tr., ECF No. 91) (agreeing that Joint Exhibit 2 reflected the "appropriate comparison between the M&R payments and repayment allocation . . . using the ten-year rolling average").

Joint Exhibit 2 included allocations and percentages through fiscal year 2015. In response to an interrogatory, the Government supplied corresponding allocations and percentages developed on the same basis for fiscal years 2016 through 2019. Appx0028-Appx0029 (Defendant's Response to Interrogatory No. 25).¹⁴

¹⁴ The Government contended that the allocations for fiscal year 2020 were not available yet. *Id.*

E. Damages

There is no dispute that the Bureau imposed disproportionate charges on plaintiffs constituting an illegal exaction for which the Government must pay damages. This Court has held already that “[i]f the Government violated the proportionality requirement in Section 3407(d), by necessary implication, the remedy would be a return of the illegal and disproportionate payments that it assessed upon Plaintiffs.” *NCPA*, 122 Fed. Cl. at 113.¹⁵ Nor is there any dispute that damages in this case are the difference between what the Bureau charged plaintiffs and what it should have charged them for fiscal years 2008 through 2020. *See* Wright Report, Appx0047 ¶ 34; Walden Disclosure, Appx00538 (“[i]n general, the damages amount is the difference between what was paid and what should have been paid.”).¹⁶

The parties also agree on many aspects of the formulas and inputs to use in calculating what should have been paid. As they explained in their November 1, 2021 Joint Supplemental Status Report, the parties generally “agree on the arithmetic and spreadsheet formulas that should be used to compute the amounts that the United States should have charged during the damages period.” Joint Suppl. Status Rep. at 7, ECF No. 148. Both parties compute the proportional charges for all power contractors compared to the actual amounts paid by all power contractors, and compute plaintiffs’ damages as a fraction of the total overpayment by all power contractors. *Id.* The parties use the same algebraic formulas to compute the proportional amounts power users should have paid. *Id.* And they agree on most of the inputs to the calculations, including what the Bureau actually charged water and power contractors during the damages period. *Id.* at 7-8.

¹⁵ *See also* Renée Burbank, *Illegal Exactions*, 87 Tenn. L. Rev. 315, 343 (2020) (In overpayment cases, “courts simply require[] that the government pay back the illegal sum.”).

¹⁶ *See also* Appx0570-Appx0575 (Defendant’s Response to Interrogatory No. 18) (explaining the Government’s view of how power charges “should have been set”).

The parties disagree on one fundamental issue that can be resolved as a matter of law. Plaintiffs contend that the calculation of what they should have paid must use, as the measure of proportionality, the cost allocations that were in effect when the disproportionate charges were rendered. Those allocations are shown in Joint Exhibit 2 and the Defendant's response to plaintiffs' interrogatory 25. Plaintiffs' expert used those historical allocations and percentages to determine what the Government would have charged during the damages period but for its failure to treat proportionality as binding. Wright Report, Appx0047-Appx0048 ¶ 36, Appx0050 ¶ 45.

In contrast, the Government's damage calculations modify those cost allocations retroactively, thereby increasing by roughly 25 percent the Government's estimate of what plaintiffs should have paid. *See id.*, Appx0056-Appx0057 ¶ 69 (comparing percentages from Joint Exhibit 2 with those used in the Government's damages calculations). The Government explained its retreat from Joint Exhibit 2 by stating that "[a]fter further analysis," the Bureau "currently takes a different position with respect to whether certain of those costs should be included or excluded from the proportionality calculation." Appx0586 (Defendant's Response to Interrogatory No. 27). Among other changes, the Government subtracts more than \$600 million from the water user CVP repayment allocations that were in effect during the damages period. *See* Appx0576-Appx0578 (Defendant's Response to Interrogatory No. 19); 2020 CAS, Appx0409; Wright Rebuttal Report, Appx0093-Appx0094 ¶ 36. The Government's expert witnesses acknowledge that their calculations involve adjusting the allocations retroactively. *See* Appx0544 (Pavich Disclosure) (explaining that the Government's proportionality calculations are based on "[cost allocation] assumptions . . . different than what was used historically"); Appx0561 (Taylor Supplemental Disclosure) (seeking to justify the "retroactive application" of cost allocation determinations completed in 2020 after the charges for fiscal years 2008 through

2020 were rendered); *id.*, Appx0567 (asserting that “damages should reflect the charges that plaintiffs would have paid . . . based on then-extant allocation *and with CVP [2020] Final Cost Allocation assumptions and policies.*”) (emphasis added).

The second question of retroactive application concerns a change in the Bureau’s method for calculating the M&R assessments to power customers after the Federal Circuit’s decision. The new methodology, first assessed prospectively in FY2021, is referred to as the “two year billing lag.” The Bureau calculates the M&R assessment for power customers based on the collections from water customers in a previous year (in this case, the assessment for FY2021 was based on water collections in FY2019). The new methodology was acceptable to power customers on a prospective basis, as it provided greater predictability of the M&R charge, and was administratively simpler because it could be based on a year for which accounting was complete. However, plaintiffs believe that applying this prospective change retroactively to the damages calculation is inconsistent with the principle of calculating damages using the methodology in place at the time the damages were incurred.¹⁷

F. Applicable law

1. Proof of damages

Plaintiffs bear the burden to prove damages with “reasonable certainty.” *See Stockton E. Water Dist. v. United States*, 109 Fed. Cl. 760, 782 (2013). But “where responsibility for damage

¹⁷ During the damages period, the Bureau calculated power’s M&R charges as the difference between the statutory cap and water charges for the same fiscal year. Therefore, plaintiffs—substituting proportionality for “power pays the difference”—calculated power M&R charges that would have been proportional to collections from water users the same fiscal year. Doing so reduced plaintiffs’ recommended damages award. Using the same-year approach, plaintiffs’ expert recommended damages of \$81,872,385 (Wright Report, Appx0048 ¶ 38)—about \$4 million less than the \$85,990,156 he calculated using the Government’s lagging method (*id.*, Appx0048-Appx0049 ¶ 39).

is clear, it not essential that the amount thereof be ascertainable with absolute exactness or mathematical precision.” *Id.* (quoting *Bluebonnet Sav. Bank, F.S.B. v. United States*, 266 F.3d 1348, 1355-57 (Fed. Cir. 2001)). The court’s duty is to ensure that plaintiffs have offered a “fair and reasonable approximation of the damages.” *Id.* (quoting 266 F.3d at 1356-57).

While plaintiffs must make a reasonable showing of what their economic position would have been but for the defendant’s wrongdoing, doubts should be resolved against the wrongdoer. “[T]he risk of uncertainty must fall on the defendant whose wrongful conduct caused the damages.” *Energy Capital Corp. v. United States*, 302 F.3d 1314, 1327 (Fed. Cir. 2002) (quoting *Mid-America Tablewares, Inc. v. Mogi Trading Co.*, 100 F.3d 1353, 1366 (7th Cir. 1996). *Cf. Bigelow v. RKO Radio Pictures, Inc.*, 327 U.S. 251, 264-65 (1946) (“The most elementary conceptions of justice and public policy require that the wrongdoer shall bear the risk of the uncertainty which his own wrong has created.”); Restatement (Second) of Contracts § 352 (Am. L. Inst. 1981) (“Doubts are generally resolved against the party in breach.”).

2. Summary judgment

Summary judgment “shall [be] grant[ed]” when “there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” RCFC 56(a).

RCFC 56 is patterned on Rule 56 of the Federal Rules of Civil Procedure (Fed.R.Civ. P.) and is similar both in language and effect. Both rules provide that summary judgment ‘shall be rendered forthwith if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law.’ RCFC 56(c); Fed. R. Civ. P. 56(c); *see also Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247-48 . . . (1986).

Demontiney v. United States, 54 Fed. Cl. 780, 784 (2002), *affirmed*, 81 Fed. Appx. 356 (2003).

An issue is genuine if it “may reasonably be resolved in favor of either party.” *Anderson*, 477 U.S. at 250. A fact is material if it might impact the outcome of the suit under the governing

law. *Id.* at 248. The moving party bears an initial burden to demonstrate the absence of any genuine issue of material fact, at which point the burden shifts to the non-moving party to show that a genuine issue of material fact exists. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323–24 (1986). “Irrelevant or unnecessary factual disputes do not preclude the entry of summary judgment.” *Demontiney*, 54 Fed. Cl. at 784.

ARGUMENT

The disputed issue that underlies the roughly \$13 million difference between the parties concerns the inputs used by each to calculate water and power users’ respective shares of CVP repayment responsibility. The statute provides that these inputs are the ten-year rolling averages of water and power users’ respective allocations for repayment of the Central Valley Project. CVPIA § 3407(d)(2)(A), 106 Stat. 4706, 4727-28, Appx0022-Appx0023. Because the Bureau pursued its illegal “power pays the difference” approach, it did not perform annual proportionality calculations for M&R charges during the damages period. It did, however, perform annual updates allocating CVP capital costs among water and power customers for other purposes—namely, the setting of annual CVP water and power rates (*see N. Cal. Power Agency*, 942 F.3d at 1092)—based on the prevailing cost allocation study methods and then-current amounts of CVP plant in service. As Plaintiff’s expert witness demonstrated, these annual allocations were consistent with the figures shown for rolling ten-year periods in Joint Exhibit 2. Had the Bureau correctly applied proportionality during the damages period, it almost certainly would have used the cost allocations then in effect and would have included the CVP water user costs it now seeks to subtract—just as it included them when it prepared Joint Exhibit 2 and, together with plaintiffs, presented that exhibit to the Court.

Plaintiffs ask the Court to hold that damages in this case are the difference between their actual M&R charges and but-for charges that are computed using the CVP cost allocations in effect during the damages period, without *post hoc* adjustment. And because Joint Exhibit 2 (Appx0027) and the Government’s interrogatory response for later years (Appx0028-Appx0030) reflect the allocations that were then in effect, plaintiffs ask the Court to rule that reliance on them is sufficient as matter of law to carry plaintiffs’ burden to show with reasonable certainty what the Bureau would have charged during the damages period had it implemented proportionality.

I. DAMAGES MUST BE MEASURED USING THE CVP COST ALLOCATIONS IN EFFECT WHEN THE CHARGES WERE ASSESSED.

Measuring economic damages requires asking what financial position the plaintiff would have been in “but for” the unlawful government action. *A & D Auto Sales, Inc. v. United States*, 748 F.3d 1142, 1157 (Fed. Cir. 2014). The “but-for scenario” is “the standard general approach to damages quantification.” Mark A. Allen, Robert E. Hall, and Victoria A. Lazear, Reference Guide on the Estimation of Economic Damages 425, 429, *Reference Manual on Scientific Evidence* (Fed. Jud. Ctr. 3d ed.2011) (“*Reference Guide*”).¹⁸ This analysis requires a “description of the defendant’s proper actions in place of its unlawful actions and a statement about the economic situation absent the wrongdoing, with the defendant’s proper actions

¹⁸ This “but for” analysis is the nearly universal measure of economic loss. *E.g.*, *Affiliated Ute Citizens of Utah v. United States*, 406 U.S. 128, 156 (measure of damages in securities fraud action was the market value of what plaintiffs’ “stock was worth . . . at the times of the . . . respective [fraudulent] sales”), *reh’g denied*, 407 U.S. 916, *reh’g denied*, 408 U.S. 931 (1972); *Chattanooga Foundry & Pipe Works v. Atlanta*, 203 U.S. 390, 396 (1906) (damages for cartel price fixing was the difference between the price paid and the market or fair price that the plaintiff “would have [otherwise] had to pay under natural conditions”).

replacing the unlawful ones.” *Id.* at 432. And the “economic situation absent the wrongdoing” is measured “as of the time of the wrongdoing.” *Id.* at 432, 445; *see also* 22 Am. Jur. 2d *Damages* § 95, 115 (2013) (“Damages for a breach of contract are determined as of the time of the occurrence of the breach”).¹⁹ “[L]ater events, such as fluctuations in value after the breach, do not affect the measure of damages.” 22 Am. Jr. 2d *Damages* § 115.

In *Reynolds v. United States*, 141 Ct. Cl. 211, 220 (1958), the Court of Claims held that “[t]he normal measure of damages for breach of contract *or other legal obligation* is the difference in value between what one would have received if the obligation had been satisfied according to its terms and what one got or had in fact.” (emphasis added). The court added that the time as of which damages are measured is “[t]he time when performance should have taken place.” *Id.*; *see also First Fed. Lincoln Bank v. United States*, 518 F.3d 1308, 1316 (Fed. Cir. 2008) (“In general, in an action for breach of contract, ‘the appropriate date for calculation of damages is the date of breach.’”) (quoting *Energy Capital Corp. v. United States*, 302 F.3d at 1330); *Estate of Berg v. United States*, 231 Ct. Cl. 466, 469 (Fed. Cir. 1982) (“As a general rule, our law has adopted the standard of market value at the time and place of the failure to perform as the basis for measuring the compensation to which the injured promisee is entitled.” (quoting J. Murray, *Contracts* § 237 (2d rev. ed. 1974))); *N. Paiute Nation v. United States*, 9 Ct. Cl. 639, 643 (1986) (“The general rule applied in the Court of Claims, this court’s predecessor, seems to be that damages are to be measured at the time of breach.”).

¹⁹ *See also* Restatement (Second) of Torts § 901 cmt. a (Am. L. Inst. 1979) (“The law of torts attempts primarily to put an injured person in a position as nearly as possible equivalent to his position prior to the tort.”).

In *Starr International Co., Inc. v. United States*, 121 Fed. Cl. 428 (2015), *vacated in part*, 856 F.3d 953 (Fed. Cir. 2017),²⁰ the court applied this rule to an illegal exaction claim. In *Starr*, the United States had bailed out American International Group, Inc. (AIG) during a financial crisis with an \$85 billion loan but demanded in exchange an 80 percent equity stake in the company. 121 Fed. Cl. at 431. The court held that the Government lacked authority to demand the equity stake and thus its demand constituted an illegal exaction. *Id.* at 434. Plaintiffs sought damages based on the value of the equity stake when the public learned of the transaction. *Id.* at 435-36. The court instead based damages on economic values measured at the time of the transaction. *Id.* at 436. Guided by relevant economic loss precedent, the trial court evaluated plaintiffs' damages by assessing the economic condition they would have been in at the time of wrongdoing "but for" the Government's illegal exaction. *Id.* at 436, 473-74. Reasoning that AIG would have gone bankrupt absent Government intervention, the court concluded that the equity stake wrongfully demanded by the Government was worthless when the loan was made and the equity stake was demanded. *Id.*

Applying these rules to this case, damages must be measured by comparing the Bureau's actual charges during the damages period with the amounts it would have levied had it treated proportionality as binding. Under the precedent discussed above, these but-for charges must be measured as of the time of the Government's wrongdoing, as if the Government had applied proportionality when it assessed M&R charges during the damages period. In many cases, an expert performing a but-for analysis can "measure damages as of the time of the wrongdoing

²⁰ On appeal, the Federal Circuit held that the plaintiffs lacked standing to pursue the illegal exaction claims, so it vacated the judgment. 856 F.3d at 973. The Federal Circuit did not reach the merits of this court's liability and damages analyses and did not comment on the reasoning it employed. *Id.* at 963.

directly from market prices or values.” *Reference Guide* at 445. Here, damages as of the time of the wrongdoing can be measured directly from records that documented the cost allocations that were in effect during the damages period and should have been used to establish proportional M&R charges. The Government’s contrary approach—based on a purported “retroactive application” of a 2020 cost allocation study—violates the controlling but-for approach to measuring damages at the time of the wrongdoing.

And worse, the Government’s approach allows it to benefit from its breach and the ensuing delay to shortchange the plaintiffs by \$13 million. Were it not for the Bureau’s wrongdoing and the multi-year litigation plaintiffs had to undertake to remedy it, there could be no question of the Government retroactively applying 2020 changes to reduce its damages. Measuring damages as the law requires, as of the time of Government’s wrongdoing, avoids that unjust outcome. *Cf. Bigelow v. RKO Radio Pictures, Inc.*, 327 U.S. 251, 264 (1946) (resolving damage doubts against the wrongdoer because “[a]ny other rule would enable the wrongdoer to profit by his wrongdoing at the expense of his victim”).

II. PLAINTIFFS PROPERLY MEASURE THE BUT-FOR CHARGES USING THE CVP COST ALLOCATIONS IN EFFECT DURING THE DAMAGES PERIOD.

Plaintiffs’ damage calculations properly apply these rules. The Government’s calculations violate them.

Plaintiffs’ expert, Wiley R. Wright, III, calculated damages using a standard but-for analysis that compared the Bureau’s actual charges with those it would have assessed had it applied proportionality as a binding constraint when it first imposed the M&R charges for fiscal years 2008 through 2020. Consistent with the rule that damages are measured as of the time of the wrongdoing, Mr. Wright explained that any computation of the but-for charges “should

reflect the facts and circumstances that existed at the time when the charges were levied.” Wright Report, Appx0050 ¶ 45. And he determined that the relevant data needed to calculate the but-for charges thus included “(a) the actual, historical CVPIA receipts collected from water users for FYs 2008 through 2020; (b) the actual, historical CVPIA receipts collected from power users for the same period; and (c) the actual, historical amounts of CVP capital costs that the Bureau then determined water and power users should repay.” *Id.*

There is no dispute about any of these facts. The dispositive question is whether the but-for charges should be calculated as plaintiffs do, using the “actual, historical” allocations, or as the Government does using adjusted allocations that post-date the damages period and reflect only a subset of water users’ CVP cost responsibilities. *See* Section III, *infra*.

Plaintiffs’ expert Wright properly used the historical allocations. Specifically, he calculated proportional but-for charges through fiscal year 2015 using the rolling ten-year cost allocations and ratios shown in Joint Exhibit 2. Wright Report, Appx0047-Appx0048 ¶ 36, Appx0053-Appx0055 ¶¶ 56-62.²¹ For fiscal years 2016 through 2019, he used percentages and

²¹ As he explains at Appx0047-Appx0048, ¶ 36 (Wright Report) (footnote excluded):

To determine the proportional ratios of water and power M&R payments, I relied on a joint exhibit introduced during the liability phase of this case showing calculations of water users’ and power users’ respective allocations for repayment of CVP capital costs during the damages period. Specifically, I relied on a document that was introduced into evidence during the 2018 trial before the Court of Federal Claims as “Joint Exhibit 2,” which provided those amounts for rolling ten-year periods through the period ending with FY 2015. As the exhibit title indicates, these data were jointly sponsored by both the plaintiffs and the defendant. I also relied on defendant’s response to plaintiffs’ interrogatory 25, which provided corresponding ten-year amounts through the period ending with FY 2019.

ratios that the Bureau produced in discovery and were calculated on the same basis as those in Joint Exhibit 2. *Id.*, Appx0054 ¶ 61. Because the Government maintained that cost allocation data for fiscal year 2020 was not yet available, he held the proportionality percentage constant from 2019 to 2020. *Id.*, Appx0053 ¶ 54.²²

There is no dispute that Joint Exhibit 2 (and the data produced in discovery) reflect the actual, historical cost allocations that were in effect during the damages period. During the 2018 trial in this case, Government witnesses agreed that Joint Exhibit 2 reflected the “the ten-year rolling average assessments of collections and repayment allocation[s]” Appx0032-Appx0033 (Trujillo-Bixby Tr., ECF No. 90; Appx0034-Appx0035 (Mooney Tr., ECF No. 91), (the “appropriate comparison between the M&R payments and repayment allocation . . . using the ten-year rolling average”). In discovery, the Government explained that the capital costs shown in Joint Exhibit 2 are “the sum of allocated capital costs over the preceding 10 years” and the percentage is the “proportion of total reimbursable costs over that 10-year period for Irrigation, M&I and Commercial Power.” Appx0583-Appx0585 (Defendant’s Response to Interrogatory No. 26). The Government explained that the capital cost allocations were “derived from the CVP annual plant-in-service allocation,” which “allocates all capital costs across the authorized purposes of the CVP and further sub-allocates water supply and power costs in order to assign costs for repayment.” *Id.* It further confirmed that the allocations through FY2016 were based on

²² As a check on his calculations using Joint Exhibit 2 and the Defendant’s response to interrogatory 25, the plaintiffs’ expert also performed calculations using proportionality ratios based on costs the Bureau showed as allocated to Irrigation, M&I Water, and Commercial Power in its annual cost allocation updates supporting its annual rate-setting process. *See* Second Supplemental Report of Wiley C. Wright III, CPA (Nov. 15, 2021) (Wright Second Supplemental Report), Appx0122-Appx0125, ¶¶ 16-25, and Appx0133-Appx0135. The alternative calculations agreed closely (within 1 percent) with the calculations based on Joint Exhibit 2 and the Defendant’s response to interrogatory 25. *See id.*, Appx0124 ¶ 22 and Appx0133-Appx0135.

the “cost allocation factors developed in the 1970 Interim CVP Cost Allocation (as updated in 1975).” *Id.* One of the Government’s expert witnesses, Steve Pavich, who has been the “lead on cost allocation analyses for the CVP since 2018,” confirmed that Joint Exhibit 2 reflects the cost allocations that were “used historically.” Appx0543-Appx0544 (Pavich Disclosure).

There is likewise no dispute that the water users’ historical allocations of CVP costs included the distribution system and San Felipe facility costs that the Government here subtracts to develop new proportionality ratios for its damages calculation. In discovery, the Government confirmed that those costs were included in the allocations used to develop Joint Exhibit 2. *See* Appx0586-Appx0590 (Defendant’s Response to Interrogatory No. 27). The Bureau’s 2001 cost allocation study explained clearly how those costs were treated throughout the damages period. They were treated as “single-purpose facilities” whose costs were “included in the CVP cost allocation” (2001 CAS, Appx0283), “allocated in total” to the water supply purpose (*id.*, Appx0283, Appx0285), and sub-allocated to Irrigation and M&I Water users (*id.*, Appx0264-Appx0265).²³

As explained above, the governing rule of law measures a plaintiff’s economic losses at the time of the defendant’s wrongdoing. Applying that rule, plaintiffs used the CVP cost allocations in effect during the damages period—as reflected in Joint Exhibit 2 and the Government’s discovery responses—to calculate the but-for charges that the Bureau would have assessed had it applied proportionality instead of power-pays-the-difference during the damages

²³ After being allocated to Irrigation and M&I Water users, the costs were “set aside in a separate repayment contract category.” Appx0283. The Bureau explained the reason for the set-aside: “Since these costs are recovered through repayment contracts” with individual water contractors, they are not included in generally applicable water service contract or power rates. *Id.* That the costs are recovered through repayment contracts rather than water service contracts does not change the fact that they are allocated to and recovered from water users. Appx0264-Appx0265.

period. Plaintiffs ask the Court to hold that plaintiffs' damages calculation method is correct as a matter of law. Specifically, we ask the Court to confirm that: (1) damages in this case are the difference between the charges actually imposed on plaintiffs for fiscal years 2008 through 2020 and the but-for charges the Bureau would have imposed during that period, measured as of the time of the illegal exactions using the CVP cost allocations and methods then in place; and (2) plaintiffs' reliance on the CVP cost allocation amounts and percentages shown in Joint Exhibit 2 and the Government's discovery responses is sufficient to carry their burden to compute but-for charges and damages with reasonable certainty

III. THE GOVERNMENT'S RETROACTIVE ADJUSTMENTS ARE CONTRARY TO LAW.

The Government, in contrast, has failed to apply a proper but-for analysis. The Government calculates "proportional" charges differently now, for damages, than it would have calculated those charges had it treated proportionality as binding when it rendered the charges. As explained below, the Court should reject the Government's damage calculations because they are contrary to the law of damages and the CVPIA scheme.

A. The Government's calculations are contrary to the law of damages.

The Government experts have rejected the traditional but-for approach to calculating damages. Dr. Taylor acknowledged that "[p]rior to 2019, the former cost allocation (1975 short form reallocation) was used to estimate the 10-year rolling average" proportionality percentages. Appx0567 (Taylor Supplemental Disclosure). And he seemingly agreed with plaintiffs that "[a]ny estimation of proportionality should reflect the facts and circumstances that existed at the time when the charges were levied." *Id.* Yet he immediately violated that rule when he contended in the next sentence that damages should reflect "the charges that plaintiff would have paid had the Bureau applied proportionality during the damages period based on then-extant allocation

and with [the 2020] CVP Final Cost Allocation assumptions and policies.” Id. (emphasis added); see also Appx0561 (Taylor Supplemental Disclosure) (attempting to justify “[a] retroactive application of the Final CVP Cost Allocation”). By definition, “retroactive application” of later assumptions and policies cannot reflect the circumstances that existed when the charges were first levied.

None of the Government’s experts contend that, had the Bureau implemented proportionality *during the damages period*, it would have done so as the Government does now and subtracted the distribution system and out-of-basin costs. To the contrary, the Government’s expert disclosures and discovery responses make clear that the Government is attempting to modify the historical cost allocations retroactively, purportedly in reliance on the 2020 study²⁴ and solely for purposes of calculating plaintiffs’ damages.²⁵

The Government acknowledges that the cost allocations in effect during the damages period allocated to water users the costs of the federally funded water distribution systems and San Felipe out-of-basin facilities that the Government now seeks to exclude. Appx0557 (Taylor Disclosure) (“Based on the 1970 cost allocation that was updated in 1975, distribution systems had been included”). And Dr. Taylor acknowledges that the Bureau, had it implemented

²⁴ Appx0561 (Taylor Supplemental Disclosure) (“A retroactive application of the Final CVP Cost Allocation is required.”; Appx0544 (Pavich Disclosure) (“There are several key [Cost Allocation Study] assumptions used for CVPIA proportionality calculations [used for the Government’s damages calculation] that are different than what was used historically (see Joint Exhibit 2).”); *id.* (“Generally, the CVPIA proportionality percentages are based on costs allocated in the [Bureau’s 2020] Final CVP Cost Allocation Study (CAS).”).

²⁵ The Bureau has not attempted to revise those CVP cost allocations and corresponding rates retroactively for any purpose other than its damages calculations here. *See* Appx0579 (Defendant’s Response to Interrogatory No. 21), Appx0580 (Defendant’s Response to Interrogatory No. 23).

proportionality during the damages period, would have used those allocations and not subtracted the distribution system and San Felipe costs.

In 1993 the Bureau proposed interim guidelines concerning the CVPIA’s proportionality provisions. In that document, the Bureau proposed to calculate proportionality using the “respective allocations for repayment of the Project . . . exclusive of any Water Contractor obligations to provide for the repayment of distribution and drainage service constructed for or financed by the United States for the exclusive use of individual Water Contractors.”²⁶ But as Dr. Taylor concedes, the Bureau never finalized or implemented the proposed guidelines. Appx0557 (Taylor Disclosure). And in 2001—well before the damages period—the Bureau decided *against* changing the treatment of federally funded distribution systems and San Felipe out-of-basin facilities in the Bureau’s cost allocations. 2001 CAS, Appx0296-Appx0299 (describing proposal) and Appx0334 (rejecting proposal).²⁷ Instead, the Bureau maintained the existing treatment and included the distribution system and out-of-basin facilities throughout the duration of the damages period. Appx0567 (Taylor Supplemental Disclosure).

Dr. Taylor explains that “[f]or most inquiries” about cost allocation and proportionality during the damages period, the “the likely action was simply to perpetuate current practice.” Appx0564 (Taylor Supplemental Disclosure). And he points to Joint Exhibit 2 as an example of

²⁶ Joint Trial Ex. 6, U.S. Dep’t of Interior, *Bureau of Reclamation: Title 34 of Public Law 102-575, Central Valley Project Improvement Act, Central Valley Project - California; Revised Interim Guidelines: Restoration Fund Payments and Charges*, Appx0222 n. 18 (Oct. 1993).

²⁷ The 1970/75 allocation treated the facilities as “single-purpose” facilities and allocated their costs entirely to the water users. 2001 CAS, Appx0264-Appx0265, Appx0283, and Appx0285. The 2001 study did not consider changing that allocation. Rather, it considered changing the process used to allocate *multipurpose* costs by excluding distribution system and San Felipe out-of-basin costs from use in that process. *Id.*, Appx0296-Appx0299. In 2001, the Bureau rejected that change and left the existing multipurpose cost allocation in place. *Id.*, Appx0334.

such likely action: “As such, when Reclamation responded to requests for data on CVP proportionality, as recently as 2016 from this Court, the response was predicated on the then current cost allocation and not the recommendation from the 1993 [Business Practice Guidelines].” Appx0565 (Taylor Supplemental Disclosure). Neither Dr. Taylor nor any other witness has supplied any reason to suppose that the Bureau would have computed proportionality differently during the damages period than it did in Joint Exhibit 2.

Rather, the Government states that the Bureau, “[a]fter further analysis,” has come to a “different position” than it held during the damages period as to whether the relevant costs “should be included or excluded from the proportionality calculation.” Appx0586-Appx0588 (Defendant’s Response to Interrogatory No. 27). The Government asserts that its present damage calculations are based on a “retroactive application” (or purported application) of the Bureau’s 2020 cost allocation study. Appx0561 (Taylor Supplemental Disclosure).²⁸

The Court should reject those calculations because the Government’s attempt to change the past is proscribed by the rule that damages are measured at the time of the wrongdoing. The Government cannot reduce its damages by retroactively applying different CVP cost allocations any more than a shop owner caught overcharging customers can defeat damages by raising prices retroactively.

B. The Government’s calculations are contrary to the CVPIA.

The Government’s retroactive subtraction of federally funded distribution system and out-of-basin costs is also contrary to the CVPIA. The CVPIA requires that M&R payments be

²⁸ As explained below, the 2020 study—which continues to treat the distribution system and out-of-basin costs as part of the water users’ total allocations, but merely excludes them from the process used to allocate multipurpose costs—does not support the Government’s damages calculation. Appx0379 (2020 CAS).

proportional to CVP repayment allocations on a ten-year rolling-average basis. The historical allocations (and CVP repayment rates and charges based on those allocations) indisputably included the relevant costs. The Bureau has not attempted to revise those allocations and rates retroactively for any purpose other than its damages calculations here. *See* Appx0579 (Defendant’s Response to Interrogatory No. 21); Appx0580 (Defendant’s Response to Interrogatory No. 23). The Government simply seeks to calculate plaintiffs’ proportional M&R charges and damages on a different basis. But calculating damages on that basis would mean accepting that plaintiffs “should have paid” M&R charges out of proportion to the cost allocations that actually were in effect during the rolling ten-year periods, contrary to the CVPIA.

The CVPIA does not contemplate retroactive revision of proportional M&R charges upon the completion of the CVP’s final cost allocation. When Congress enacted the CVPIA in 1992, it knew that the existing interim CVP cost allocation had been last updated in 1975. Congress also knew that in 1986 it directed the Bureau to complete a new cost allocation study by 1988²⁹ and the Bureau by 1992 still had not done so.³⁰ Consequently, Congress knew that the Bureau was allocating CVP costs and setting rates for repayment of those costs on the basis of interim allocations. Despite this, when Congress enacted the CVPIA, it directed the Bureau to set M&R charges in the same proportions over rolling ten-year periods as the water and power users respective allocations for CVP repayment. CVPIA § 3407(d)(2)(A), 106 Stat. 4706, 4727-28,

²⁹ Appx0187 (Pub. L. No. 99-546) (“The Secretary of the Interior is authorized and directed 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.”)

³⁰ By the Bureau’s admission, it gave “limited attention to the congressional mandate for an updated cost allocation before mid-1987.” Appx0154 (1992 GAO Report). The Bureau released a draft allocation update for public comment in January 1990 (*id.*) but did not complete that study. Appx0267 (2001 CAS) (observing in 2001 that “[n]o major reallocation of CVP costs has been completed since 1975”).

Appx0022-Appx0023. And Congress said nothing about retroactively revising M&R charges when, at some unspecified future time, the Bureau completed a final CVP cost allocation. *Id.* Nor can the Bureau invent such a process (let alone apply it solely to plaintiffs) when Congress did not do so. As the Supreme Court has held, “[r]etroactivity is not favored in the law” and delegations of “legislative rulemaking authority will not, as a general matter, be understood to encompass the power to promulgate retroactive rules unless that power is conveyed by Congress in express terms.” *Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 208-09 (1988).

In any case, the Government’s calculations are not based merely on a retroactive application of the 2020 study; they are based on a retroactive *mis*application of it. The 2020 study did not relieve the water users of responsibility to repay federally funded distribution system and out-of-basin facility costs. Nor did it allocate those costs to other users. To the contrary, the study treated them as directly assigned costs that are part of the overall allocation. The study set them aside temporarily, to exclude them from the “Separable Cost-Remaining Benefits” (SCRB) process used to allocate multipurpose facility costs, and then added them to the allocated multipurpose costs to produce the total allocation. 2020 CAS, Appx0407 (“Adding together the costs allocated by the SCRB process and the direct assigned costs provides the total CVP cost allocated.”); *id.*, Appx0405 (“Facility costs that are not included in the SCRB analysis but remain part of the overall CAS include direct assigned costs [and] repayment contracts”); Appx0550 (Pavich Supplemental Disclosure) (federally funded water distribution system and San Felipe out of basin facilities “represent a direct-assigned cost”). Thus, even if the 2020 study were applied retroactively, it would not support excluding those facility costs from the CVP allocations.

CVPIA § 3407(d)(2)(A) requires that M&R payments be proportional to power and water users’ “respective allocations for repayment of the Central Valley Project,” not arbitrary subsets

of those allocations. 106 Stat. at 4727-28, Appx0022-Appx0023. But the Government’s calculations are based on such subsets. As Government witness Dr. Taylor explained: “[when] Reclamation relies on the ‘CVP cost allocation’ it is the SCRB, *and not the whole allocation*, that reflects the appropriate allocation to use.” Appx0556 (Taylor Disclosure) (emphasis added).³¹ The 2020 study allocated roughly \$3.9 billion in costs for CVP facilities in service. Appx0556 (Taylor Disclosure). For many of those facilities, together accounting for about \$1.7 billion, cost assignments were prescribed by statute or contract. *Id.* The Bureau used the “SCRB” process to allocate the remaining \$2.2 billion. *Id.* Using only the costs allocated by the SCRB method “and not the whole allocation” thus ignores almost 45 percent of the CVP’s costs.³²

The proportionality requirement of CVPIA § 3407(d) “is a restriction that has a limiting effect on the Secretary [of the Interior]’s freedom of action with regard to the collection of [mitigation and restoration] payments.” *N. Cal. Power Agency v. United States*, 942 F.3d 1091, 1096 (Fed. Cir. 2019). CVPIA section 3407(d)(2)(A), 106 Stat. at 4727-28, Appx0022-Appx0023, provides in relevant part that “[t]he amount of the mitigation and restoration payment made by Central Valley Project water and power users . . . shall . . . be assessed in the same proportion, measured over a ten-year rolling average, as water and power users’ respective allocations for repayment of the Central Valley Project.” The proportionality requirement mandates the imposition of mitigation and restoration payments that are a function of *all* “water

³¹ See also Appx0544 (Pavich Disclosure) (“The CVPIA proportionality percentages exclude direct assigned and certain other costs that were excluded from the SCRB methodology in the CAS.”).

³² \$1.7 billion divided by \$3.9 billion equals roughly 44 percent. To be clear, the ignored 44 percent includes both costs reimbursable by water and power contractors and nonreimbursable costs borne by the federal government. The federally funded water distribution facilities and out of basin costs—in excess of \$600 million, Appx0415 (2020 CAS)—account for about 16 percent of the \$3.9 billion CVP plant in service.

and power users’ respective allocations for repayment of the Central Valley Project” as “measured over a ten-year rolling average.” And “where, as here, the statute’s language is plain, ‘the sole function of the courts is to enforce it according to its terms.’” *United States v. Ron Pair Enter.*, 489 U.S. 235, 241 (1989) (quoting *Caminetti v. United States*, 242 U.S. 470, 485 (1917)). Thus, in order to calculate plaintiffs’ damages consistent with the statute it is necessary to measure over a ten-year rolling average the totality of water users’ allocations for CVP repayment against the totality of power users’ allocations for CVP repayment.

The CVPIA does not give the Bureau discretion to exclude CVP Water user costs that have been directly assigned or are outside the SCRB methodology from the total amount of “water . . . users’ . . . allocations for repayment of the Central Valley Project” (CVPIA section 3407(d)(2)(A), 106 Stat. at 4727-28, Appx0022-Appx0023) used to implement the proportionality requirement of section 3407(d)(2)(A). All CVP water user costs, however allocated, necessarily fall within “water . . . users’ respective allocations for repayment of the Central Valley Project,” including the very substantial amount of CVP water user water distribution system and San Felipe “out of basin” costs that the Government has improperly excluded from its damages calculation. Government witness Pavich addresses the language of “CVPIA Section 3702(d)(2)(a) [sic]” and asserts that “only CVP costs that are **allocated** for repayment should be included in CVPIA proportionality.” Appx0549 (Pavich Supplemental Disclosure) (original emphasis).³³ He states that because the water distribution system and San Felipe out of basin facility costs “are ‘direct[ly] assigned’” they are “therefore not ‘allocated’ for

³³ Mr. Pavich’s reference to “CVPIA Section 3702(d)(2)(a)” appears to be a mistaken reference to CVPIA Section 3407(d)(2)(a).

repayment” and “should not be included in CVPIA proportionality” for purposes of calculating M&R charges. *Id.* But this reading of CVPIA Section 3407(d) is untenable.

The CVPIA does not define the term “allocate” (*see* CVPIA § 3403 (definitions), Appx0001-Appx0003) and absent a statutory definition “a statutory term [is construed] in accordance with its ordinary or natural meaning.” *Fed. Deposit Ins. Corp. v. Meyer*, 510 U.S. 471, 476 (1994); *see also N. Cal. Power Agency*, 942 F.3d at 1096. Here, allocate means “[t]o set apart for a special purpose; [to] designate” (*allocate*, American Heritage Dictionary (4th ed. 2006)), so costs that are directly assigned to a particular customer or set of them are allocated within the plain meaning of the word. Indeed, direct assignment is a generally recognized method of cost allocation. *See* Appx0096-Appx0097 ¶ 43 (Wright Rebuttal Report). And the 2020 study *itself* treats direct assigned costs as “part of the overall CAS” (2020 CAS, Appx0405) and included in “the total CVP cost allocated” (*id.*, Appx0407).

* * *

In sum, the Government proposes to reduce the damages it owes by using an impermissible method to calculate what plaintiffs “should have paid” had the Bureau applied proportionality during the damages period. The Government’s damages calculations reflect a modification of the cost allocations that were in effect at the time, based on an asserted retroactive application of assumptions and policies from a 2020 cost allocation study never implemented during the damages period. That approach is contrary to the rule that economic loss damages should be measured as of the time of the wrongdoing and is contrary to the language and structure of the CVPIA. The Court therefore should reject the Government’s calculations as contrary to law.

CONCLUSIONS

For the reasons above, the Court should hold as a matter of law that the correct proportionality percentages to use in calculating what plaintiffs should have paid during the damages period are those that reflect the cost allocations in effect during that period, without retroactive adjustment. The Court also should rule that plaintiffs' use of the proportionality percentages from Joint Exhibit 2 (Appx0027) and the Government's discovery response for later years (Appx0028-Appx0029) is sufficient, as a matter of law, to carry their burden to prove damages by showing with reasonable certainty what the Bureau would have charged during the damages period had it prioritized proportionality over collections. Because the parties' differences are purely methodological, such rulings should effectively dispose of the case. If the Court issues the rulings requested here and directs the parties to meet and confer to calculate damages in light of those rulings, plaintiffs believe that the parties should be able to stipulate to the resulting damages. Alternatively, given the absence of material disputed facts, plaintiffs believe that the Court could grant summary judgment and award plaintiffs damages in the amount (\$81,872,385) computed by plaintiffs' expert.

Respectfully submitted,

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December 17, 2021

CERTIFICATE OF SERVICE

I hereby certify that on this 17th day of December, 2021, I caused the foregoing to be filed electronically with the Clerk of the Court using the CM/ECF system, which will send a Notice of Electronic Filing to all counsel of record. Users not registered with CM/ECF will be served by U.S. Mail or other electronic means.

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IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER
AGENCY, ET AL., Plaintiffs,

v.

THE UNITED STATES, Defendant.

No. 14-817C
(Judge Tapp)

**APPENDIX TO
PLAINTIFFS' MEMORANDUM IN SUPPORT OF MOTION FOR
SUMMARY JUDGMENT OR PARTIAL SUMMARY JUDGMENT**

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the project, that are used solely for the purpose of serving the respective district's lands and which the Secretary determines are necessary to enable the respective district to carry out operation and maintenance with respect to that portion of the Rio Grande project to be transferred. The transfer of the title to such easements, ditches, laterals, canals, drains, and other rights-of-way located in New Mexico, which the Secretary has, that are used for the purpose of jointly serving Elephant Butte Irrigation District and El Paso County Water Improvement District No. 1, may be transferred to Elephant Butte Irrigation District and El Paso County Water Improvement District No. 1, jointly, upon agreement by the Secretary and both districts. Any transfer under this section shall be subject to the condition that the respective district assume responsibility for operating and maintaining their portion of the project.

SEC. 3302. LIMITATION.

Title to and responsibility for operation and maintenance of Elephant Butte and Caballo dams, and Percha, Leasburg, and Mesilla diversion dams and the works necessary for their protection and operation shall be unaffected by this title.

SEC. 3303. EFFECT OF ACT ON OTHER LAWS.

Nothing in this title shall affect any right, title, interest or claim to land or water, if any, of the Ysleta del Sur Pueblo, a federally recognized Indian Tribe.

Central Valley
Project
Improvement
Act.
Water supply.
California.

TITLE XXXIV—CENTRAL VALLEY PROJECT IMPROVEMENT ACT

SEC. 3401. SHORT TITLE.

This title may be cited as the "Central Valley Project Improvement Act".

SEC. 3402. PURPOSES.

The purposes of this title shall be—

(a) to protect, restore, and enhance fish, wildlife, and associated habitats in the Central Valley and Trinity River basins of California;

(b) to address impacts of the Central Valley Project on fish, wildlife and associated habitats;

(c) to improve the operational flexibility of the Central Valley Project;

(d) to increase water-related benefits provided by the Central Valley Project to the State of California through expanded use of voluntary water transfers and improved water conservation;

(e) to contribute to the State of California's interim and long-term efforts to protect the San Francisco Bay/Sacramento-San Joaquin Delta Estuary;

(f) to achieve a reasonable balance among competing demands for use of Central Valley Project water, including the requirements of fish and wildlife, agricultural, municipal and industrial and power contractors.

SEC. 3403. DEFINITIONS.

As used in this title—

(a) the term "anadromous fish" means those stocks of salmon (including steelhead), striped bass, sturgeon, and American shad that ascend the Sacramento and San Joaquin rivers and their tributaries and the Sacramento-San Joaquin Delta to reproduce after maturing in San Francisco Bay or the Pacific Ocean;

(b) the terms "artificial propagation" and "artificial production" mean spawning, incubating, hatching, and rearing fish in a hatchery or other facility constructed for fish production;

(c) the term "Central Valley Habitat Joint Venture" means the association of Federal and State agencies and private parties established for the purpose of developing and implementing the North American Waterfowl Management Plan as it pertains to the Central Valley of California;

(d) the terms "Central Valley Project" or "project" mean all Federal reclamation projects located within or diverting water from or to the watershed of the Sacramento and San Joaquin rivers and their tributaries as authorized by the Act of August 26, 1937 (50 Stat. 850) and all Acts amendatory or supplemental thereto, including but not limited to the Act of October 17, 1940 (54 Stat. 1198, 1199), Act of December 22, 1944 (58 Stat. 887), Act of October 14, 1949 (63 Stat. 852), Act of September 26, 1950 (64 Stat. 1036), Act of August 27, 1954 (68 Stat. 879), Act of August 12, 1955 (69 Stat. 719), Act of June 3, 1960 (74 Stat. 156), Act of October 23, 1962 (76 Stat. 1173), Act of September 2, 1965 (79 Stat. 615), Act of August 19, 1967 (81 Stat. 167), Act of August 27, 1967 (81 Stat. 173), Act of October 23, 1970 (84 Stat. 1097), Act of September 28, 1976 (90 Stat. 1324) and Act of October 27, 1986 (100 Stat. 3050);

(e) the term "Central Valley Project service area" means that area of the Central Valley and San Francisco Bay Area where water service has been expressly authorized pursuant to the various feasibility studies and consequent congressional authorizations for the Central Valley Project;

(f) the term "Central Valley Project water" means all water that is developed, diverted, stored, or delivered by the Secretary in accordance with the statutes authorizing the Central Valley Project and in accordance with the terms and conditions of water rights acquired pursuant to California law;

(g) the term "full cost" has the meaning given such term in paragraph (3) of section 202 of the Reclamation Reform Act of 1982;

(h) the term "natural production" means fish produced to adulthood without direct human intervention in the spawning, rearing, or migration processes;

(i) the term "Reclamation laws" means the Act of June 17, 1902 (82 Stat. 388) and all Acts amendatory thereof or supplemental thereto;

(j) the term "Refuge Water Supply Report" means the report issued by the Mid-Pacific Region of the Bureau of Reclamation of the U.S. Department of the Interior entitled Report on Refuge Water Supply Investigations, Central Valley Hydrologic Basin, California (March 1989);

(k) the terms "repayment contract" and "water service contract" have the same meaning as provided in sections 9(d)

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and 9(e) of the Reclamation Project Act of 1939 (53 Stat. 1187, 1195), as amended;

(l) the terms "Restoration Fund" and "Fund" mean the Central Valley Project Restoration Fund established by this title; and,

(m) the term "Secretary" means the Secretary of the Interior.

SEC. 3404. LIMITATION ON CONTRACTING AND CONTRACT REFORM.

(a) **NEW CONTRACTS.**—Except as provided in subsection (b) of this section, the Secretary shall not enter into any new short-term, temporary, or long-term contracts or agreements for water supply from the Central Valley Project for any purpose other than fish and wildlife before:

(1) the provisions of subsections 3406(b)–(d) of this title are met;

(2) the California State Water Resources Control Board concludes the review ordered by the California Court of Appeals in *United States v. State Water Resources Control Board*, 182 Cal. App. 3d 82 (1986) and determines the means of implementing its decision, including the obligations of the Central Valley Project, if any, and the Administrator of the Environmental Protection Agency shall have approved such decision pursuant to existing authorities; and,

(3) at least one hundred and twenty days shall have passed after the Secretary provides a report to the Committee on Energy and Natural Resources of the Senate and the Committee on Interior and Insular Affairs and the Committee on Merchant Marine and Fisheries of the House of Representatives explaining the obligations, if any, of the Central Valley Project system, including its component facilities and contracts, with regard to achieving its responsibilities for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary as finally established and approved by relevant State and Federal authorities, and the impact of such obligations on Central Valley Project operations, supplies, and commitments.

(b) **EXCEPTIONS TO LIMIT ON NEW CONTRACTS.**—The prohibition on execution of new contracts under subsection (a) of this section shall not apply to contracts executed pursuant to section 305 of Public Law 102-250 or section 206 of Public Law 101-514 or to one-year contracts for delivery of surplus flood flows or contracts not to exceed two years in length for delivery of class II water in the Friant Unit. Notwithstanding the prohibition in the Energy and Water Development Appropriations Act of 1990, the Secretary is authorized, pursuant to section 203 of the Flood Control Act of 1962, to enter into a long-term contract in accordance with the Reclamation laws with the Tuolumne Regional Water District, California, for the delivery of water from the New Melones project to the county's water distribution system and a contract with the Secretary of Veteran Affairs to provide for the delivery in perpetuity of water from the project in quantities sufficient, but not to exceed 850 acre-feet per year, to meet the needs of the San Joaquin Valley National Cemetery, California.

(c) **RENEWAL OF EXISTING LONG-TERM CONTRACTS.**—Notwithstanding the provisions of the Act of July 2, 1956 (70 Stat. 483), the Secretary shall, upon request, renew any existing long-term repayment or water service contract for the delivery of water from

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the Central Valley Project for a period of twenty-five years and may renew such contracts for successive periods of up to 25 years each.

(1) No such renewals shall be authorized until appropriate environmental review, including the preparation of the environmental impact statement required in section 3409 of this title, has been completed. Contracts which expire prior to the completion of the environmental impact statement required by section 3409 may be renewed for an interim period not to exceed three years in length, and for successive interim periods of not more than two years in length, until the environmental impact statement required by section 3409 has been finally completed, at which time such interim renewal contracts shall be eligible for long-term renewal as provided above. Such interim renewal contracts shall be modified to comply with existing law, including provisions of this title. With respect to all contracts renewed by the Secretary since January 1, 1988, the Secretary shall incorporate in said contracts a provision requiring payment of the charge mandated in subsection 3406(c) and subsection 3407(b) of this title and all other modifications needed to comply with existing law, including provisions of this title. This title shall be deemed "applicable law" as that term is used in Article 14(c) of contracts renewed by the Secretary since January 1, 1988.

(2) Upon renewal of any long-term repayment or water service contract providing for the delivery of water from the Central Valley Project, the Secretary shall incorporate all requirements imposed by existing law, including provisions of this title, within such renewed contracts. The Secretary shall also administer all existing, new, and renewed contracts in conformance with the requirements and goals of this title.

(3) In order to encourage early renewal of project water contracts and facilitate timely implementation of this title, the Secretary shall impose on existing contractors an additional mitigation and restoration payment of one and one-half times the annual mitigation and restoration payment calculated under subsection 3407(d) of this title for every year starting October 1, 1997 or January 1 of the year following the year in which the environmental impact statement required under section 3409 is completed, whichever is sooner, and ending on the effective date of the renewed contract payable prior to the renewal of such contract, to be covered to the Restoration Fund: *Provided, however,* That this paragraph shall not apply to contracts renewed after January 1, 1988, and prior to the date of enactment of this title or, in the event the environmental impact statement required by section 3409 is not completed by October 1, 1997, to any holder of a contract in existence on the date of enactment of this title who enters into a binding agreement with the Secretary prior to October 1, 1997, to renew its contract immediately upon completion of that environmental impact statement, if such contract has not expired prior to such date.

SEC. 3405. WATER TRANSFERS, IMPROVED WATER MANAGEMENT AND CONSERVATION.

Contracts.

(a) **WATER TRANSFERS.**—In order to assist California urban areas, agricultural water users, and others in meeting their future

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water needs, subject to the conditions and requirements of this subsection, all individuals or districts who receive Central Valley Project water under water service or repayment contracts, water rights settlement contracts or exchange contracts entered into prior to or after the date of enactment of this title are authorized to transfer all or a portion of the water subject to such contract to any other California water user or water agency, State or Federal agency, Indian tribe, or private nonprofit organization for project purposes or any purpose recognized as beneficial under applicable State law. Except as provided herein, the terms of such transfers shall be set by mutual agreement between the transferee and the transferor.

(1) CONDITIONS FOR TRANSFERS.—All transfers to Central Valley Project water authorized by this subsection shall be subject to review and approval by the Secretary under the conditions specified in this subsection. Transfers involving more than 20 percent of the Central Valley Project water subject to long-term contract within any contracting district or agency shall also be subject to review and approval by such district or agency under the conditions specified in this subsection:

(A) No transfer to combination of transfers authorized by this subsection shall exceed, in any year, the average annual quantity of water under contract actually delivered to the contracting district or agency during the last three years of normal water delivery prior to the date of enactment of this title.

(B) All water under the contract which is transferred under authority of this subsection to any district or agency which is not a Central Valley Project contractor at the time of enactment of this title shall, if used for irrigation purposes, be repaid at the greater of the full-cost or cost of service rates, or, if the water is used for municipal and industrial purposes, at the greater of the cost of service or municipal and industrial rates.

(C) No transfers authorized by this subsection shall be approved unless the transfer is between a willing buyer and a willing seller under such terms and conditions as may be mutually agreed upon.

(D) No transfer authorized by this subsection shall be approved unless the transfer is consistent with State law, including but not limited to provisions of the California Environmental Quality Act.

(E) All transfers authorized by this subsection shall be deemed a beneficial use of water by the transferor for the purposes of section 8 of the Act of June 17, 1902, 32 Stat. 390, 43 U.S.C. 372.

(F) All transfers entered into pursuant to this subsection for uses outside the Central Valley Project service area shall be subject to a right of first refusal on the same terms and conditions by entities within the Central Valley Project service area. The right of first refusal must be exercised within ninety days from the date that notice is provided of the proposed transfer. Should an entity exercise the right of first refusal, it must compensate the transferee who had negotiated the agreement upon which the right of first refusal is being exercised for that entity's

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total costs associated with the development and negotiation of the transfer.

(G) No transfer authorized by this subsection shall be considered by the Secretary as conferring supplemental or additional benefits on Central Valley Project water contractors as provided in section 203 of Public Law 97-293 (43 U.S.C. 390(cc)).

(H) The Secretary shall not approve a transfer authorized by this subsection unless the Secretary has determined, consistent with paragraph 3405(a)(2) of this title, that the transfer will not violate the provisions of this title or other Federal law and will have no significant adverse effect on the Secretary's ability to deliver water pursuant to the Secretary's Central Valley Project contractual obligations or fish and wildlife obligations under this title because of limitations in conveyance or pumping capacity.

(I) The water subject to any transfer undertaken pursuant to this subsection shall be limited to water that would have been consumptively used or irretrievably lost to beneficial use during the year or years of the transfer.

(J) The Secretary shall not approve a transfer authorized by this subsection unless the Secretary determines, consistent with paragraph 3405(a)(2) of this title, that such transfer will have no significant long-term adverse impact on groundwater conditions in the transferor's service area.

(K) The Secretary shall not approve a transfer unless the Secretary determines, consistent with paragraph 3405(a)(2) of this title, that such transfer will have no unreasonable impact on the water supply, operations, or financial conditions of the transferor's contracting district or agency or its water users.

(L) The Secretary shall not approve a transfer if the Secretary determines, consistent with paragraph 3405(a)(2) of this title, that such transfer would result in a significant reduction in the quantity or decrease in the quality of water supplies currently used for fish and wildlife purposes, unless the Secretary determines pursuant to findings setting forth the basis for such determination that such adverse effects would be more than offset by the benefits of the proposed transfer. In the event of such a determination, the Secretary shall develop and implement alternative measures and mitigation activities as integral and concurrent elements of any such transfer to provide fish and wildlife benefits substantially equivalent to those lost as a consequence of such transfer.

(M) Transfers between Central Valley Project contractors within countries, watersheds, or other areas of origin, as those terms are utilized under California law, shall be deemed to meet the conditions set forth in subparagraphs (A) and (I) of this paragraph.

(2) REVIEW AND APPROVAL OF TRANSFERS.—All transfers subject to review and approval under this subsection shall be reviewed and approved in a manner consistent with the following:

(A) Decisions on water transfers subject to review by a contracting district or agency or by the Secretary shall

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be rendered within ninety days of receiving a written transfer proposal from the transferee or transferor. Such written proposal should provide all information reasonably necessary to determine whether the transfer complies with the terms and conditions of this subsection.

(B) All transfers subject to review by a contracting district or agency shall be reviewed in a public process similar to that provided for in section 226 of Public Law 97-293.

(C) The contracting district or agency or the Secretary shall approve all transfers subject to review and approval by such entity if such transfers are consistent with the terms and conditions of this subsection. To disapprove a transfer, the contracting district or agency or the Secretary shall inform the transferee and transferor, in writing, why the transfer does not comply with the terms and conditions of this subsection and what alternatives, if any, could be included so that the transfer would reasonably comply with the requirements of this subsection.

(D) If the contracting district or agency or the Secretary fails to approve or disapprove a proposed transfer within ninety days of receiving a complete written proposal from the transferee or transferor, then the transfer shall be deemed approved.

(3) Transfers executed after September 30, 1999 shall only be governed by the provisions of subparagraphs 3405(a)(1)(A)-(C), (E), (G), (H), (I), (L), and (M) of this title, and by State law.

(b) **METERING OF WATER USE REQUIRED.**—All Central Valley Project water service or repayment contracts for agricultural, municipal, or industrial purposes that are entered into, renewed, or amended under any provision of Federal Reclamation law after the date of enactment of this title, shall provide that the contracting district or agency shall ensure that all surface water delivery systems within its boundaries are equipped with water measuring devices or water measuring methods of comparable effectiveness acceptable to the Secretary within five years of the date of contract execution, amendment, or renewal, and that any new surface water delivery systems installed within its boundaries on or after the date of contract renewal are so equipped. The contracting district or agency shall inform the Secretary and the State of California annually as to the monthly volume of surface water delivered within its boundaries.

(c) **STATE AND FEDERAL WATER QUALITY STANDARDS.**—All Central Valley Project water service or repayment contracts for agricultural, municipal, or industrial purposes that are entered into, renewed, or amended under any provision of Federal Reclamation law after the date of enactment of this title, shall provide that the contracting district or agency shall be responsible for compliance with all applicable State and Federal water quality standards applicable to surface and subsurface agricultural drainage discharges generated within its boundaries. This subsection shall not affect or alter any legal obligation of the Secretary to provide drainage services.

(d) **WATER PRICING REFORM.**—All Central Valley Project water service or repayment contracts for a term longer than three years for agricultural, municipal, or industrial purposes that are entered

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into, renewed, or amended under any provision of Federal Reclamation law after the date of enactment of this title shall provide that all project water subject to contract shall be made available to districts, agencies, and other contracting entities pursuant to a system of tiered water pricing. Such a system shall specify rates for each district, agency or entity based on an inverted block rate structure with the following provisions:

(1) the first rate tier shall apply to a quantity of water up to 80 percent of the contract total and shall not be less than the applicable contract rate;

(2) the second rate tier shall apply to that quantity of water over 80 percent and under 90 percent of the contract total and shall be at a level halfway between the rates established under paragraphs (1) and (3) of this subsection;

(3) the third rate tier shall apply to that quantity of water over 90 percent of the contract total and shall not be less than the full cost rate; and

(4) the Secretary shall charge contractors only for water actually delivered.

The Secretary shall waive application of this subsection as it relates to any project water delivered to produce a crop which the Secretary determines will provide significant and quantifiable habitat values for waterfowl in fields where the water is used and the crops are produced: *Provided*, That such waiver shall apply only if such habitat values can be assured consistent with the purposes of this title through binding agreements executed with or approved by the Secretary.

(e) **WATER CONSERVATION STANDARDS.**—The Secretary shall establish and administer an office of Central Valley Project water conservation best management practices that shall, in consultation with the Secretary of Agriculture, the California Department of Water Resources, California academic institutions, and Central Valley Project water users, develop criteria for evaluating the adequacy of all water conservation plans developed by project contractors, including those plans required by section 210 of the Reclamation Reform Act of 1982.

(1) Criteria developed pursuant to this subsection shall be established within six months following enactment of this title and shall be reviewed periodically thereafter, but no less than every three years, with the purpose of promoting the highest level of water use efficiency reasonably achievable by project contractors using best available cost-effective technology and best management practices. The criteria shall include, but not be limited to agricultural water suppliers' efficient water management practices developed pursuant to California State law or reasonable alternatives.

(2) The Secretary, through the office established under this subsection, shall review and evaluate within 18 months following enactment of this title all existing conservation plans submitted by project contractors to determine whether they meet the conservation and efficiency criteria established pursuant to this subsection.

(3) In developing the water conservation best management practice criteria required by this subsection, the Secretary shall take into account and grant substantial deference to the recommendations for action specific to water conservation and drainage source reduction proposed in the Final Report of the

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San Joaquin Valley Drainage Program, entitled A Management Plan for Agricultural Subsurface Drainage and Related Problems on the Westside San Joaquin Valley (September 1990).

(f) INCREASED REVENUES.—All revenues received by the Secretary as a result of the increased repayment rates applicable to water transferred from irrigation use to municipal and industrial use under subsection 3405(a) of this section, and all increased revenues received by the Secretary as a result of the increased water prices established under subsection 3405(d) of this section, shall be covered to the Restoration Fund.

SEC. 3406. FISH, WILDLIFE AND HABITAT RESTORATION.

(a) AMENDMENTS TO CENTRAL VALLEY PROJECT AUTHORIZATIONS.—Act of August 26, 1937.—Section 2 of the Act of August 26, 1937 (chapter 832; 50 Stat. 850), as amended, is amended—

(1) in the second proviso of subsection (a), by inserting “and mitigation, protection, and restoration of fish and wildlife” after “Indian reservations”;

(2) in the last proviso of subsection (a), by striking “domestic uses;” and inserting “domestic uses and fish and wildlife mitigation, protection and restoration purposes;” and by striking “power” and inserting “power and fish and wildlife enhancement”;

(3) by adding at the end the following: “The mitigation for fish and wildlife losses incurred as a result of construction, operation, or maintenance of the Central Valley Project shall be based on the replacement of ecologically equivalent habitat and shall take place in accordance with the provisions of this title and concurrent with any future actions which adversely affect fish and wildlife populations or their habitat but shall have no priority over them.”; and

(4) by adding at the end the following: “(e) Nothing in this title shall affect the State’s authority to condition water rights permits for the Central Valley Project.”

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(b) FISH AND WILDLIFE RESTORATION ACTIVITIES.—The Secretary, immediately upon the enactment of this title, shall operate the Central Valley Project to meet all obligations under State and Federal law, including but not limited to the Federal Endangered Species Act, 16 U.S.C. 1531, et seq., and all decisions of the California State Water Resources Control Board establishing conditions on applicable licenses and permits for the project. The Secretary, in consultation with other State and Federal agencies, Indian tribes, and affected interests, is further authorized and directed to:

(1) develop within three years of enactment and implement a program which makes all reasonable efforts to ensure that, by the year 2002, natural production of anadromous fish in Central Valley rivers and streams will be sustainable, on a long-term basis, at levels not less than twice the average levels attained during the period of 1967–1991; *Provided*, That this goal shall not apply to the San Joaquin River between Friant Dam and the Mendota Pool, for which a separate program is authorized under subsection 3406(c) of this title; *Provided further*, That the programs and activities authorized by this section shall, when fully implemented, be deemed to meet the mitigation, protection, restoration, and enhancement purposes established by subsection 3406(a) of this title; *And provided further*, That in the course of developing and implementing

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this program the Secretary shall make all reasonable efforts consistent with the requirements of this section to address other identified adverse environmental impacts of the Central Valley Project not specifically enumerated in this section.

(A) This program shall give first priority to measures which protect and restore natural channel and riparian habitat values through habitat restoration actions, modifications to Central Valley Project operations, and implementation of the supporting measures mandated by this subsection; shall be reviewed and updated every five years; and shall describe how the Secretary intends to operate the Central Valley Project to meet the fish, wildlife, and habitat restoration goals and requirements set forth in this title and other project purposes.

(B) As needed to achieve the goals of this program, the Secretary is authorized and directed to modify Central Valley Project operations to provide flows of suitable quality, quantity, and timing to protect all life stages of anadromous fish, except that such flows shall be provided from the quantity of water dedicated to fish, wildlife, and habitat restoration purposes under paragraph (2) of this subsection; from the water supplies acquired pursuant to paragraph (3) of this subsection; and from other sources which do not conflict with fulfillment of the Secretary's remaining contractual obligations to provide Central Valley Project water for other authorized purposes. Instream flow needs for all Central Valley Project controlled streams and rivers shall be determined by the Secretary based on recommendations of the United States Fish and Wildlife Service after consultation with the California Department of Fish and Game.

(C) The Secretary shall cooperate with the State of California to ensure that, to the greatest degree practicable, the specific quantities of yield dedicated to and managed for fish and wildlife purposes under this title are credited against any additional obligations of the Central Valley Project which may be imposed by the State of California following enactment of this title, including but not limited to increased flow and reduced export obligations which may be imposed by the California State Water Resources Control Board in implementing San Francisco Bay/Sacramento-San Joaquin Delta Estuary standards pursuant to the review ordered by the California Court of Appeals in *United States v. State Water Resources Control Board*, 182 Cal.App.3d 82 (1986), and that, to the greatest degree practicable, the programs and plans required by this title are developed and implemented in a way that avoids inconsistent or duplicative obligations from being imposed upon Central Valley Project water and power contractors.

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(D) Costs associated with this paragraph shall be reimbursable pursuant to existing statutory and regulatory procedures.

(2) upon enactment of this title dedicate and manage annually eight hundred thousand acre-feet of Central Valley Project yield for the primary purpose of implementing the fish, wildlife, and habitat restoration purposes and measures authorized by this title; to assist the State of California in its efforts

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to protect the waters of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary; and to help to meet such obligations as may be legally imposed upon the Central Valley Project under State or Federal law following the date of enactment of this title, including but not limited to additional obligations under the Federal Endangered Species Act. For the purpose of this section, the term "Central Valley Project yield" means the delivery capability of the Central Valley Project during the 1928–1934 drought period after fishery, water quality, and other flow and operational requirements imposed by terms and conditions existing in licenses, permits, and other agreements pertaining to the Central Valley Project under applicable State or Federal law existing at the time of enactment of this title have been met.

(A) Such quantity of water shall be in addition to the quantities needed to implement paragraph 3406(d)(1) of this title and in addition to all water allocated pursuant to paragraph (23) of this subsection for release to the Trinity River for the purposes of fishery restoration, propagation, and maintenance; and shall be supplemented by all water that comes under the Secretary's control pursuant to subsections 3406(b)(3), 3408(h)–(i), and through other measures consistent with subparagraph 3406(b)(1)(B) of this title.

(B) Such quantity of water shall be managed pursuant to conditions specified by the United States Fish and Wildlife Service after consultation with the Bureau of Reclamation and the California Department of Water Resources and in cooperation with the California Department of Fish and Game.

(C) The Secretary may temporarily reduce deliveries of the quantity of water dedicated under this paragraph up to 25 percent of such total whenever reductions due to hydrologic circumstances are imposed upon agricultural deliveries of Central Valley Project water; *Provided*, That such reductions shall not exceed in percentage terms the reductions imposed on agricultural service contractors; *Provided further*, That nothing in this subsection or subsection 3406(e) shall require the Secretary to operate the project in a way that jeopardizes human health or safety.

(D) If the quantity of water dedicated under this paragraph, or any portion thereof, is not needed for the purposes of this section, based on a finding by the Secretary, the Secretary is authorized to make such water available for other project purposes.

(3) develop and implement a program in coordination and in conformance with the plan required under paragraph (1) of this subsection for the acquisition of a water supply to supplement the quantity of water dedicated to fish and wildlife purposes under paragraph (2) of this subsection and to fulfill the Secretary's obligations under paragraph 3406(d)(2) of this title. The program should identify how the Secretary intends to utilize, in particular the following options: improvements in or modifications of the operations of the project; water banking; conservation; transfers; conjunctive use; and temporary and permanent land fallowing, including purchase, lease, and option of water, water rights, and associated agricultural land.

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(4) develop and implement a program to mitigate for fishery impacts associated with operations of the Tracy Pumping Plant. Such program shall include, but is not limited to improvement or replacement of the fish screens and fish recovery facilities and practices associated with the Tracy Pumping Plant. Costs associated with this paragraph shall be reimbursed in accordance with the following formula: 37.5 percent shall be reimbursed as main project features, 37.5 percent shall be considered a nonreimbursable Federal expenditure, and 25 percent shall be paid by the State of California. The reimbursable share of funding for this and other facility repairs, improvements, and construction shall be allocated among project water and power users in accordance with existing project cost allocation procedures.

(5) develop and implement a program to mitigate for fishery impacts resulting from operations of the Contra Costa Canal Pumping Plant No. 1. Such program shall provide for construction and operation of fish screening and recovery facilities, and for modified practices and operations. Costs associated with this paragraph shall be reimbursed in accordance with the following formula: 37.5 percent shall be reimbursed as main project features, 37.5 percent shall be considered a nonreimbursable Federal expenditure, and 25 percent shall be paid by the State of California.

(6) install and operate a structural temperature control device at Shasta Dam and develop and implement modifications in CVP operations as needed to assist in the Secretary's efforts to control water temperatures in the upper Sacramento River in order to protect anadromous fish in the upper Sacramento River. Costs associated with planning and construction of the structural temperature control device shall be reimbursed in accordance with the following formula: 37.5 percent shall be reimbursed as main project features, 37.5 percent shall be considered a nonreimbursable Federal expenditure, and 25 percent shall be paid by the State of California.

(7) meet flow standards and objectives and diversion limits set forth in all laws and judicial decisions that apply to Central Valley Project facilities, including, but not limited to, provisions of this title and all obligations of the United States under the "Agreement Between the United States and the Department of Water Resources of the State of California for Coordinated Operation of the Central Valley Project and the State Water Project" dated May 20, 1985, as well as Public Law 99-546.

(8) make use of short pulses of increased water flows to increase the survival of migrating anadromous fish moving into and through the Sacramento-San Joaquin Delta and Central Valley rivers and streams.

(9) develop and implement a program to eliminate, to the extent possible, losses of anadromous fish due to flow fluctuations caused by the operation of any Central Valley Project storage or re-regulating facility. The program shall be patterned where appropriate after the agreement between the California Department of Water Resources and the California Department of Fish and Game with respect to the operation of the California State Water Project Oroville Dam complex.

(10) develop and implement measures to minimize fish passage problems for adult and juvenile anadromous fish at

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the Red Bluff Diversion Dam in a manner that provides for the use of associated Central Valley Project conveyance facilities for delivery of water to the Sacramento Valley National Wildlife Refuge complex in accordance with the requirements of subsection (d) of this section. Costs associated with implementation of this paragraph shall be reimbursed in accordance with the following formula: 37.5 percent shall be reimbursed as main project features, 37.5 percent shall be considered a nonreimbursable Federal expenditure, and 25 percent shall be paid by the State of California.

(11) rehabilitate and expand the Coleman National Fish Hatchery by implementing the United States Fish and Wildlife Service's Coleman National Fish Hatchery Development Plan, and modify the Keswick Dam Fish Trap to provide for its efficient operation at all project flow release levels and modify the basin below the Keswick Dam spillway to prevent the trapping of fish. Costs associated with implementation of this paragraph shall be reimbursed in accordance with the following formula: 50 percent shall be reimbursed as main project features and 50 percent shall be considered a nonreimbursable Federal expenditure.

(12) develop and implement a comprehensive program to provide flows to allow sufficient spawning, incubation, rearing, and outmigration for salmon and steelhead from Whiskeytown Dam as determined by instream flow studies conducted by the California Department of Fish and Game after Clear Creek has been restored and a new fish ladder has been constructed at the McCormick-Saeltzer Dam. Costs associated with channel restoration, passage improvements, and fish ladder construction required by this paragraph shall be allocated 50 percent to the United States as a nonreimbursable expenditure and 50 percent to the State of California. Costs associated with providing the flows required by this paragraph shall be allocated among project purposes.

(13) develop and implement a continuing program for the purpose of restoring and replenishing, as needed, spawning gravel lost due to the construction and operation of Central Valley Project dams, bank protection projects, and other actions that have reduced the availability of spawning gravel and rearing habitat in the Upper Sacramento River from Keswick Dam to Red Bluff Diversion Dam, and in the American and Stanislaus Rivers downstream from the Nimbus and Goodwin Dams, respectively. The program shall include preventive measures, such as re-establishment of meander belts and limitations on future bank protection activities, in order to avoid further losses of instream and riparian habitat. Costs associated with implementation of this paragraph shall be reimbursed in accordance with the following formula: 37.5 percent shall be reimbursed as main project features, 37.5 percent shall be considered a nonreimbursable Federal expenditure, and 25 percent shall be paid by the State of California.

(14) develop and implement a program which provides for modified operations and new or improved control structures at the Delta Cross Channel and Georgiana Slough during times when significant numbers of striped bass eggs, larvae, and juveniles approach the Sacramento River intake to the Delta Cross Channel or Georgiana Slough. Costs associated with

implementation of this paragraph shall be reimbursed in accordance with the following formula: 37.5 percent shall be reimbursed as main project features, 37.5 percent shall be considered a nonreimbursable Federal expenditure, and 25 percent shall be paid by the State of California.

(15) construct, in cooperation with the State of California and in consultation with local interests, a barrier at the head of Old River in the Sacramento-San Joaquin Delta to be operated on a seasonal basis to increase the survival of young outmigrating salmon that are diverted from the San Joaquin River to Central Valley Project and State Water Project pumping plants and in a manner that does not significantly impair the ability of local entities to divert water. The costs associated with implementation of this paragraph shall be reimbursed in accordance with the following formula: 37.5 percent shall be reimbursed as main project features, 37.5 percent shall be considered a nonreimbursable Federal expenditure, and 25 percent shall be paid by the State of California.

(16) establish, in cooperation with independent entities and the State of California, a comprehensive assessment program to monitor fish and wildlife resources in the Central Valley to assess the biological results and effectiveness of actions implemented pursuant to this subsection. 37.5 percent of the costs associated with implementation of this paragraph shall be reimbursed as main project features, 37.5 percent shall be considered a nonreimbursable Federal expenditure, and 25 percent shall be paid by the State of California.

(17) develop and implement a program to resolve fishery passage problems at the Anderson-Cottonwood Irrigation District Diversion Dam as well as upstream stranding problems related to Anderson-Cottonwood Irrigation District Diversion Dam operations. Costs associated with implementation of this paragraph shall be allocated 50 percent to the United States as a nonreimbursable expenditure and 50 percent to the State of California.

(18) if requested by the State of California, assist in developing and implementing management measures to restore the striped bass fishery of the Bay-Delta estuary. Such measures shall be coordinated with efforts to protect and restore native fisheries. Costs associated with implementation of this paragraph shall be allocated 50 percent to the United States and 50 percent to the State of California. The United States' share of costs associated with implementation of this paragraph shall be nonreimbursable.

(19) reevaluate existing operational criteria in order to maintain minimum carryover storage at Sacramento and Trinity River reservoirs to protect and restore the anadromous fish of the Sacramento and Trinity Rivers in accordance with the mandates and requirements of this subsection and subject to the Secretary's responsibility to fulfill all project purposes, including agricultural water delivery.

(20) participate with the State of California and other Federal agencies in the implementation of the on-going program to mitigate fully for the fishery impacts associated with operations of the Glenn-Colusa Irrigation District's Hamilton City Pumping Plant. Such participation shall include replacement of the defective fish screens and fish recovery facilities associ-

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ated with the Hamilton City Pumping Plant. This authorization shall not be deemed to supersede or alter existing authorizations for the participation of other Federal agencies in the mitigation program. Seventy-five percent shall be considered a nonreimbursable Federal expenditure, and 25 percent shall be paid by the State of California.

(21) assist the State of California in efforts to develop and implement measures to avoid losses of juvenile anadromous fish resulting from unscreened or inadequately screened diversions on the Sacramento and San Joaquin rivers, their tributaries, the Sacramento-San Joaquin Delta, and the Suisun Marsh. Such measures shall include but shall not be limited to construction of screens on unscreened diversions, rehabilitation of existing screens, replacement of existing non-functioning screens, and relocation of diversions to less fishery-sensitive areas. The Secretary's share of costs associated with activities authorized under this paragraph shall not exceed 50 percent of the total cost of any such activity.

(22) provide such incentives as the Secretary determines to be appropriate or necessary, consistent with the goals and objectives of this title, to encourage farmers to participate in a program, which the Secretary shall develop, under which such farmers will keep fields flooded during appropriate time periods for the purposes of waterfowl habitat creation and maintenance and for Central Valley Project yield enhancement; *Provided*, That such incentives shall not exceed \$2,000,000 annually, either directly or through credits against other contractual payment obligations, including the pricing waivers authorized under subsection 3405(d) of this title; *Provided further*, That the holder of the water contract shall pass such incentives through to farmers participating in the program, less reasonable contractor costs, if any; *And provided further*, That such water may be transferred subject to section 3405(a) of this title only if the farmer waives all rights to such incentives. This provision shall terminate by the year 2002.

(23) in order to meet Federal trust responsibilities to protect the fishery resources of the Hoopa Valley Tribe, and to meet the fishery restoration goals of the Act of October 24, 1984, Public Law 98-541, provide through the Trinity River Division, for water years 1992 through 1996, an instream release of water to the Trinity River of not less than three hundred and forty thousand acre-feet per year for the purposes of fishery restoration, propagation, and maintenance and,

(A) by September 30, 1996, the Secretary, after consultation with the Hoopa Valley Tribe, shall complete the Trinity River Flow Evaluation Study currently being conducted by the United States Fish and Wildlife Service under the mandate of the Secretarial Decision of January 14, 1981, in a manner which insures the development of recommendations, based on the best available scientific data, regarding permanent instream fishery flow requirements and Trinity River Division operating criteria and procedures for the restoration and maintenance of the Trinity River fishery; and

(B) not later than December 31, 1996, the Secretary shall forward the recommendations of the Trinity River Flow Evaluation Study, referred to in subparagraph (A)

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of this paragraph, to the Committee on Energy and Natural Resources and the Select Committee on Indian Affairs of the Senate and the Committee on Interior and Insular Affairs and the Committee on Merchant Marine and Fisheries of the House of Representatives. If the Secretary and the Hoopa Valley Tribe concur in these recommendations, any increase to the minimum Trinity River instream fishery releases established under this paragraph and the operating criteria and procedures referred to in subparagraph (A) shall be implemented accordingly. If the Hoopa Valley Tribe and the Secretary do not concur, the minimum Trinity River instream fishery releases established under this paragraph shall remain in effect unless increased by an Act of Congress, appropriate judicial decree, or agreement between the Secretary and the Hoopa Valley Tribe. Costs associated with implementation of this paragraph shall be reimbursable as operation and maintenance expenditures pursuant to existing law.

If the Secretary and the State of California determine that long-term natural fishery productivity in all Central Valley Project controlled rivers and streams resulting from implementation of this section exceeds that which existed in the absence of Central Valley Project facilities, the costs of implementing those measures which are determined to provide such enhancement shall become credits to offset reimbursable costs associated with implementation of this subsection.

(c) **SAN JOAQUIN AND STANISLAUS RIVERS.**—The Secretary shall, by not later than September 30, 1996:

(1) develop a comprehensive plan, which is reasonable, prudent, and feasible, to address fish, wildlife, and habitat concerns on the San Joaquin River, including but not limited to the streamflow, channel, riparian habitat, and water quality improvements that would be needed to reestablish where necessary and to sustain naturally reproducing anadromous fisheries from Friant Dam to its confluence with the San Francisco Bay/Sacramento-San Joaquin Delta Estuary. Such plan shall be developed in cooperation with the California Department of Fish and Game and in coordination with the San Joaquin River Management Program under development by the State of California; shall comply with and contain any documents required by the National Environmental Policy Act and contain findings setting forth the basis for the Secretary's decision to adopt and implement the plan as well as recommendations concerning the need for subsequent Congressional action, if any; and shall incorporate, among other relevant factors, the potential contributions of tributary streams as well as the alternatives to be investigated under paragraph (2) of this subsection. During the time that the Secretary is developing the plan provided for in this subsection, and until such time as Congress has authorized the Secretary to implement such plan, with or without modifications, the Secretary shall not, as a measure to implement this title, make releases for the restoration of flows between Gravelly Ford and the Mendota Pool and shall not thereafter make such releases as a measure to implement this title without a specific Act of Congress authorizing such releases. In lieu of such requirement, and until such time as flows of sufficient quantity, quality and

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timing are provided at and below Gravelly Ford to meet the anadromous fishery needs identified pursuant to such plan, if any, entities who receive water from the Friant Division of the Central Valley Project shall be assessed, in addition to all other applicable charges, a \$4 per acre-foot surcharge for all Project water delivered on or before September 30, 1997; a \$5 per acre-foot surcharge for all Project water delivered after September 30, 1997 but on or before September 30, 1999; and a \$7 per acre-foot surcharge for all Project water delivered thereafter, to be covered into the Restoration Fund.

(2) in the course of preparing the Stanislaus River Basin and Calaveras River Water Use Program Environmental Impact Statement and in consultation with the State of California, affected counties, and other interests, evaluate and determine existing and anticipated future basin needs in the Stanislaus River Basin. In the course of such evaluation, the Secretary shall investigate alternative storage, release, and delivery regimes, including but not limited to conjunctive use operations, conservation strategies, exchange arrangements, and the use of base and channel maintenance flows, in order to best satisfy both basin and out-of-basin needs consistent, on a continuing basis, with the limitations and priorities established in the Act of October 23, 1962 (76 Stat. 173). For the purposes of this subparagraph, "basin needs" shall include water supply for agricultural, municipal and industrial uses, and maintenance and enhancement of water quality, and fish and wildlife resources within the Stanislaus River Basin as established by the Secretary's June 29, 1981 Record of Decision; and "out-of-basin" needs shall include all such needs outside of the Stanislaus River Basin, including those of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary and those of the San Joaquin River under paragraph (1) of this subsection.

(d) CENTRAL VALLEY REFUGES AND WILDLIFE HABITAT AREAS.—In support of the objectives of the Central Valley Habitat Joint Venture and in furtherance of the purposes of this title, the Secretary shall provide, either directly or through contractual agreements with other appropriate parties, firm water supplies of suitable quality to maintain and improve wetland habitat areas on units of the National Wildlife Refuge System in the Central Valley of California; on the Gray Lodge, Los Banos, Volta, North Grasslands, and Mendota state wildlife management areas; and on the Grasslands Resources Conservation District in the Central Valley of California.

(1) Upon enactment of this title, the quantity and delivery schedules of water measured at the boundaries of each wetland habitat area described in this paragraph shall be in accordance with level 2 of the "Dependable Water Supply Needs" table for those habitat areas as set forth in the Refuge Water Supply Report and two-thirds of the water supply needed for full habitat development for those habitat areas identified in the San Joaquin Basin Action Plan/Kesterson Mitigation Action Plan Report prepared by the Bureau of Reclamation. Such water shall be provided through long-term contractual agreements with appropriate parties and shall be supplemented by the increment of water provided for in paragraph (1) of this subsection; *Provided*, That the Secretary shall be obligated to provide such water whether or not such long-term contractual

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agreements are in effect. In implementing this paragraph, the Secretary shall endeavor to diversify sources of supply in order to minimize possible adverse effects upon Central Valley Project contractors.

(2) Not later than ten years after enactment of this title, the quantity and delivery schedules of water measured at the boundaries of each wetland habitat area described in this paragraph shall be in accordance with level 4 of the "Dependable Water Supply Needs" table for those habitat areas as set forth in the Refuge Water Supply Report and the full water supply needed for full habitat development for those habitat areas identified in the San Joaquin Basin Action Plan/Kesterson Mitigation Action Plan Report prepared by the Bureau of Reclamation. The quantities of water required to supplement the quantities provided under paragraph (1) of this subsection shall be acquired by the Secretary in cooperation with the State of California and in consultation with the Central Valley Habitat Joint Venture and other interests in cumulating increments of not less than ten percent per annum through voluntary measures which include water conservation, conjunctive use, purchase, lease, donations, or similar activities, or a combination of such activities which do not require involuntary reallocations of project yield.

(3) All costs associated with implementation of paragraph (1) of this subsection shall be reimbursable pursuant to existing law. Incremental costs associated with implementation of paragraph (2) of this subsection shall be fully allocated in accordance with the following formula: 75 percent shall be deemed a nonreimbursable Federal expenditure; and 25 percent shall be allocated to the State of California for recovery through direct reimbursements or through equivalent in-kind contributions.

(4) The Secretary may temporarily reduce deliveries of the quantity of water dedicated under paragraph (1) of this subsection up to 25 percent of such total whenever reductions due to hydrologic circumstances are imposed upon agricultural deliveries of Central Valley Project water; *Provided*, That such reductions shall not exceed in percentage terms the reductions imposed on agricultural service contractors. For the purpose of shortage allocation, the priority or priorities applicable to the increment of water provided under paragraph (2) of this subsection shall be the priority or priorities which applied to the water in question prior to its transfer to the purpose of providing such increment.

(5) The Secretary is authorized and directed to construct or to acquire from non-Federal entities such water conveyance facilities, conveyance capacity, and wells as are necessary to implement the requirements of this subsection; *Provided*, That such authorization shall not extend to conveyance facilities in or around the Sacramento-San Joaquin Delta Estuary. Associated construction or acquisition costs shall be reimbursable pursuant to existing law in accordance with the cost allocations set forth in paragraph (3) of this subsection.

(6) The Secretary, in consultation with the State of California, the Central Valley Habitat Joint Venture, and other interests, shall investigate and report on the following supplemental actions by not later than September 30, 1997:

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(A) alternative means of improving the reliability and quality of water supplies currently available to privately owned wetlands in the Central Valley and the need, if any, for additional supplies; and

(B) water supply and delivery requirements necessary to permit full habitat development for water dependent wildlife on one hundred and twenty thousand acres supplemental to the existing wetland habitat acreage identified in Table 8 of the Central Valley Habitat Joint Venture's "Implementation Plan" dated April 19, 1990, as well as feasible means of meeting associated water supply requirements.

(e) SUPPORTING INVESTIGATIONS.—Not later than five years after the date of enactment of this title, the Secretary shall investigate and provide recommendations to the Committee on Energy and Natural Resources of the Senate and the Committees on Interior and Insular Affairs and Merchant Marine and Fisheries of the House on the feasibility, cost, and desirability of developing and implementing each of the following, including, but not limited to, the impact on the project, its users, and the State of California:

(1) measures to maintain suitable temperatures for anadromous fish survival in the Sacramento and San Joaquin rivers and their tributaries, and the Sacramento-San Joaquin Delta by controlling or relocating the discharge of irrigation return flows and sewage effluent, and by restoring riparian forests;

(2) opportunities for additional hatchery production to mitigate the impacts of water development and operations on, or enhance efforts to increase Central Valley fisheries; *Provided*, That additional hatchery production shall only be used to supplement or to re-establish natural production while avoiding adverse effects on remaining wild stocks;

(3) measures to eliminate barriers to upstream and downstream migration of salmonids in the Central Valley, including but not limited to screening programs, barrier removal programs and programs for the construction or rehabilitation of fish ladders on tributary streams;

(4) installation and operation of temperature control devices at Trinity Dam and Reservoir to assist in the Secretary's efforts to conserve cold water for fishery protection purposes;

(5) measures to provide for modified operations and new or improved control structures at the Delta Cross Channel and Georgiana Slough to assist in the successful migration of anadromous fish; and

(6) other measures which the Secretary determines would protect, restore, and enhance natural production of salmon and steelhead trout in tributary streams of the Sacramento and San Joaquin Rivers, including but not limited to the Merced, Mokelumne, and Calaveras Rivers and Battle, Butte, Deer, Elder, Mill, and Thomes Creeks.

(f) REPORT ON PROJECT FISHERY IMPACTS.—The Secretary, in consultation with the Secretary of Commerce, the State of California, appropriate Indian tribes, and other appropriate public and private entities, shall investigate and report on all effects of the Central Valley Project on anadromous fish populations and the fisheries, communities, tribes, businesses and other interests and entities that have now or in the past had significant economic, social or cultural association with those fishery resources. The Sec-

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retary shall provide such report to the Committee on Energy and Natural Resources of the Senate and the Committees on Interior and Insular Affairs and Merchant Marine and Fisheries of the House of Representatives not later than two years after the date of enactment of this title.

(g) ECOSYSTEM AND WATER SYSTEM OPERATIONS MODELS.—The Secretary, in cooperation with the State of California and other relevant interests and experts, shall develop readily usable and broadly available models and supporting data to evaluate the ecologic and hydrologic effects of existing and alternative operations of public and private water facilities and systems in the Sacramento, San Joaquin, and Trinity River watersheds. The primary purpose of this effort shall be to support the Secretary's efforts in fulfilling the requirements of this title through improved scientific understanding concerning, but not limited to, the following:

(1) a comprehensive water budget of surface and ground-water supplies, considering all sources of inflow and outflow available over extended periods;

(2) related water quality conditions and improvement alternatives, including improved temperature prediction capabilities as they relate to storage and flows;

(3) surface-ground and stream-wetland interactions;

(4) measures needed to restore anadromous fisheries to optimum and sustainable levels in accordance with the restored carrying capacities of Central Valley rivers, streams, and riparian habitats;

(5) development and use of base flows and channel maintenance flows to protect and restore natural channel and riparian habitat values;

(6) implementation of operational regimes at State and Federal facilities to increase springtime flow releases, retain additional floodwaters, and assist in restoring both upriver and downriver riparian habitats;

(7) measures designed to reach sustainable harvest levels of resident and anadromous fish, including development and use of systems of tradeable harvest rights;

(8) opportunities to protect and restore wetland and upland habitats throughout the Central Valley; and

(9) measures to enhance the firm yield of existing Central Valley Project facilities, including improved management and operations, conjunctive use opportunities, development of offstream storage, levee setbacks, and riparian restoration.

All studies and investigations shall take into account and be fully consistent with the fish, wildlife, and habitat protection and restoration measures required by this title or by any other State or Federal law. Seventy-five percent of the costs associated with implementation of this subsection shall be borne by the United States as a nonreimbursable cost; the remaining 25 percent shall be borne by the State of California.

(h) The Secretary shall enter into a binding cost-share agreement with the State of California with respect to the timely reimbursement of costs allocated to the State in this title. Such agreement shall provide for consideration of the value of direct reimbursements, specific contributions to the Restoration Fund, and water, conveyance capacity, or other contributions in-kind that would supplement existing programs and that would, as determined

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by the Secretary, materially contribute to attainment of the goals and objectives of this title.

SEC. 3407. RESTORATION FUND.

(a) **RESTORATION FUND ESTABLISHED.**—There is hereby established in the Treasury of the United States the “Central Valley Project Restoration Fund” (hereafter “Restoration Fund”) which shall be available for deposit of donations from any source and revenues provided under sections 3404(c)(3), 3405(f), 3406(c)(1), and 3407(d) of this title. Amounts deposited shall be credited as offsetting collections. Not less than 67 percent of all funds made available to the Restoration Fund under this title are authorized to be appropriated to the Secretary to carry out the habitat restoration, improvement and acquisition (from willing sellers) provisions of this title. Not more than 33 percent of all funds made available to the Restoration Fund under this title are authorized to be appropriated to the Secretary to carry out the provisions of paragraphs 3406(b)(4)–(6), (10)–(18), and (20)–(22) of this title. Monies donated to the Restoration Fund by non-Federal entities for specific purposes shall be expended for those purposes only and shall not be subject to appropriation.

(b) **AUTHORIZATION OF APPROPRIATIONS.**—Such sums as are necessary, up to \$50,000,000 per year (October 1992 price levels), are authorized to be appropriated to the Secretary to be derived from the Restoration Fund to carry out programs, projects, plans, and habitat restoration, improvement, and acquisition provisions of this title. Any funds paid into the Restoration Fund by Central Valley Project water and power contractors and which are also used to pay for the projects and facilities set forth in section 3406(b), shall act as an offset against any water and power contractor cost share obligations that are otherwise provided for in this title.

(c) **MITIGATION AND RESTORATION PAYMENTS BY WATER AND POWER BENEFICIARIES.**—

(1) To the extent required in appropriation Acts, the Secretary shall assess and collect additional annual mitigation and restoration payments, in addition to the charges provided for or collected under sections 3404(c)(3), 3405(a)(1)(C), 3405(f), and 3406(c)(1) of this title, consisting of charges to direct beneficiaries of the Central Valley Project under subsection (d) of this section in order to recover a portion or all of the costs of fish, wildlife, and habitat restoration programs and projects under this title.

(2) The payment described in this subsection shall be established at amounts that will result in collection, during each fiscal year, of an amount that can be reasonably expected to equal the amount appropriated each year, subject to subsection (d) of this section, and in combination with all other receipts identified under this title, to carry out the purposes identified in subsection (b) of this section; *Provided*, That, if the total amount appropriated under subsection (b) of this section for the fiscal years following enactment of this title does not equal \$50,000,000 per year (October 1992 price levels) on an average annual basis, the Secretary shall impose such charges in fiscal year 1998 and in each fiscal year thereafter, subject to the limitations in subsection (d) of this section, as may be required to yield in fiscal year 1998 and in each fiscal

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year thereafter total collections equal to \$50,000,000 per year (October 1992 price levels) on a three-year rolling average basis for each fiscal year that follows enactment of this title.

(d) ADJUSTMENT AND ASSESSMENT OF MITIGATION AND RESTORATION PAYMENTS.—

(1) In assessing the annual payments to carry out subsection (c) of this section, the Secretary shall, prior to each fiscal year, estimate the amount that could be collected in each fiscal year pursuant to subparagraphs 2(A) and (B) of this subsection. The Secretary shall decrease all such payments on a proportionate basis from amounts contained in the estimate so that an aggregate amount is collected pursuant to the requirements of paragraph (c)(2) of this section.

(2) The Secretary shall assess and collect the following mitigation and restoration payments, to be covered to the Restoration Fund, subject to the requirements of paragraph (1) of this subsection:

(A) The Secretary shall require Central Valley Project water and power contractors to make such additional annual payments as are necessary to yield, together with all other receipts, the amount required under paragraph (c)(2) of this subsection; *Provided*, That such additional payments shall not exceed \$30,000,000 (October 1992 price levels) on a three-year rolling average basis; *Provided further*, That such additional annual payments shall be allocated so as not to exceed \$6 per acre-foot (October 1992 price levels) for agricultural water sold and delivered by the Central Valley Project, and \$12 per acre-foot (October 1992 price levels) for municipal and industrial water sold and delivered by the Central Valley Project; *Provided further*, That the charge imposed on agricultural water shall be reduced, if necessary, to an amount within the probable ability of the water users to pay as determined and adjusted by the Secretary no less than every five years, taking into account the benefits resulting from implementation of this title; *Provided further*, That the Secretary shall impose an additional annual charge of \$25 per acre-foot (October 1992 price levels) for Central Valley Project water sold or transferred to any State or local agency or other entity which has not previously been a Central Valley Project customer and which contracts with the Secretary or any other individual or district receiving Central Valley Project water to purchase or otherwise transfer any such water for its own use for municipal and industrial purposes, to be deposited in the Restoration Fund; *And Provided further*, That upon the completion of the fish, wildlife, and habitat mitigation and restoration actions mandated under section 3406 of this title, the Secretary shall reduce the sums described in paragraph (c)(2) of this section to \$35,000,000 per year (October 1992 price levels) and shall reduce the annual mitigation and restoration payment ceiling established under this subsection to \$15,000,000 (October 1992 price levels) on a three-year rolling average basis. The amount of the mitigation and restoration payment made by Central Valley Project water and power users, taking into account all funds collected under this title, shall, to the greatest degree practicable, be assessed in

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the same proportion, measured over a ten-year rolling average, as water and power users' respective allocations for repayment of the Central Valley Project.

(e) **FUNDING TO NON-FEDERAL ENTITIES.**—If the Secretary determines that the State of California or an agency or subdivision thereof, an Indian tribe, or a nonprofit entity concerned with restoration, protection, or enhancement of fish, wildlife, habitat, or environmental values is able to assist in implementing any action authorized by this title in an efficient, timely, and cost effective manner, the Secretary is authorized to provide funding to such entity on such terms and conditions as he deems necessary to assist in implementing the identified action.

(f) **RESTORATION FUND FINANCIAL REPORTS.**—The Secretary shall, not later than the first full fiscal year after enactment of this title, and annually thereafter, submit a detailed report to the Committee on Energy and Natural Resources and the Committee on Appropriations of the Senate, and the Committee on Interior and Insular Affairs, the Committee on Merchant Marine and Fisheries, and the Committee on Appropriations of the House of Representatives. Such report shall describe all receipts to and uses made of monies within the Restoration Fund and the Restoration Account during the prior fiscal year and shall include the Secretary's projection with respect to receipts to and uses to be made of the funds during the next upcoming fiscal year.

SEC. 3408. ADDITIONAL AUTHORITIES.

(a) **REGULATIONS AND AGREEMENTS AUTHORIZED.**—The Secretary is authorized and directed to promulgate such regulations and enter into such agreements as may be necessary to implement the intent, purposes and provisions of this title.

(b) **USE OF ELECTRICAL ENERGY.**—Electrical energy used to operate and maintain facilities developed for fish and wildlife purposes pursuant to this title, including that used for groundwater development, shall be deemed as Central Valley Project power and shall, if reimbursable, be repaid in accordance with Reclamation law at a price not higher than the lowest price paid by or charged to other Central Valley Project contractors.

(c) **CONTRACTS FOR ADDITIONAL STORAGE AND DELIVERY OF WATER.**—The Secretary is authorized to enter into contracts pursuant to Reclamation law and this title with any Federal agency, California water user or water agency, State agency, or private nonprofit organization for the exchange, impoundment, storage, carriage, and delivery of Central Valley Project and non-project water for domestic, municipal, industrial, fish and wildlife, and any other beneficial purpose, except that nothing in this subsection shall be deemed to supersede the provisions of section 103 of Public Law 99-546 (100 Stat. 3051).

(d) **USE OF PROJECT FACILITIES FOR WATER BANKING.**—The Secretary, in consultation with the State of California, is authorized to enter into agreements to allow project contracting entities to use project facilities, where such facilities are not otherwise committed or required to fulfill project purposes or other Federal obligations, for supplying carry-over storage of irrigation and other water for drought protection, multiple-benefit credit-storage operations, and other purposes. The use of such water shall be consistent with and subject to State law. All or a portion of the water provided

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for fish and wildlife under this title may be banked for fish and wildlife purposes in accordance with this subsection.

(e) **LIMITATION ON CONSTRUCTION.**—This title does not and shall not be interpreted to authorize construction of water storage facilities, nor shall it limit the Secretary's ability to participate in water banking or conjunctive use programs.

(f) **ANNUAL REPORTS TO CONGRESS.**—Not later than September 30 of each calendar year after the date of enactment of this title, the Secretary shall submit a detailed report to the Committee on Energy and Natural Resources of the Senate and the Committee on Interior and Insular Affairs and the Committee on Merchant Marine and Fisheries of the House of Representatives. Such report shall describe all significant actions taken by the Secretary pursuant to this title and progress toward achievement of the intent, purposes and provisions of this title. Such report shall include recommendations for authorizing legislation or other measures, if any, needed to implement the intent, purposes and provisions of this title.

(g) **RECLAMATION LAW.**—This title shall amend and supplement the Act of June 17, 1902, and Acts supplementary thereto and amendatory thereof.

(h) **LAND RETIREMENT.**—

(1) The Secretary is authorized to purchase from willing sellers land and associated water rights and other property interests identified in paragraph (h)(2) which receives Central Valley Project water under a contract executed with the United States, and to target such purchases to areas deemed most beneficial to the overall purchase program, including the purposes of this title.

(2) The Secretary is authorized to purchase, under the authority of paragraph (h)(i), and pursuant to such rules and regulations as may be adopted or promulgated to implement the provisions of this subsection, agricultural land which, in the opinion of the Secretary—

(A) would, if permanently retired from irrigation, improve water conservation by a district, or improve the quality of an irrigation district's agricultural wastewater and assist the district in implementing the provisions of a water conservation plan approved under section 210 of the Reclamation Reform Act of 1982 and agricultural wastewater management activities developed pursuant to recommendations specific to water conservation, drainage source reduction, and land retirement contained in the final report of the San Joaquin Valley Drainage Program (September, 1990); or

(B) are no longer suitable for sustained agricultural production because of permanent damage resulting from severe drainage or agricultural wastewater management problems, groundwater withdrawals, or other causes.

(i) **WATER CONSERVATION.**—

(1) The Secretary is authorized to undertake, in cooperation with Central Valley Project irrigation contractors, water conservation projects or measures needed to meet the requirements of this title. The Secretary shall execute a cost-sharing agreement for any such project or measure undertaken. Under such agreement, the Secretary is authorized to pay up to 100 percent of the costs of such projects or measures. Any water saved

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by such projects or measures shall be governed by the conditions of subparagraph 3405(a)(1) (A) and (J) of this title, and shall be made available to the Secretary in proportion to the Secretary's contribution to the total cost of such project or measure. Such water shall be used by the Secretary to meet the Secretary's obligations under this title, including the requirements of paragraph 3406(b)(3). Such projects or measures must be implemented fully by September 30, 1999.

(2) There are authorized to be appropriated through the end of fiscal year 1998 such sums as may be necessary to carry out the provisions of this subsection. Funds appropriated under this subsection shall be a nonreimbursable Federal expenditure.

(j) **PROJECT YIELD INCREASE.**—In order to minimize adverse effects, if any, upon existing Central Valley Project water contractors resulting from the water dedicated to fish and wildlife under this title, and to assist the State of California in meeting its future water needs, the Secretary shall, not later than three years after the date of enactment of this title, develop and submit to the Congress, a least-cost plan to increase, within fifteen years after the date of enactment of this title, the yield of the Central Valley Project by the amount dedicated to fish and wildlife purposes under this title. The plan authorized by this subsection shall include, but shall not be limited to a description of how the Secretary intends to use the following options:

- (1) improvements in, modification of, or additions to the facilities and operations of the project;
- (2) conservation;
- (3) transfers;
- (4) conjunctive use;
- (5) purchase of water;
- (6) purchase and idling of agricultural land; and
- (7) direct purchase of water rights.

Such plan shall include recommendations on appropriate cost-sharing arrangements and shall be developed in a manner consistent with all applicable State and Federal law.

(k) Except as specifically provided in this title, nothing in this title is intended to alter the terms of any final judicial decree confirming or determining water rights.

SEC. 3409. ENVIRONMENTAL REVIEW.

Not later than three years after the date of enactment of this title, the Secretary shall prepare and complete a programmatic environmental impact statement pursuant to the National Environmental Policy Act analyzing the direct and indirect impacts and benefits of implementing this title, including all fish, wildlife, and habitat restoration actions and the potential renewal of all existing Central Valley Project water contracts. Such statement shall consider impacts and benefits within the Sacramento, San Joaquin, and Trinity River basins, and the San Francisco Bay/Sacramento-San Joaquin River Delta Estuary. The cost of the environmental impact statement described in this section shall be treated as a capital expense in accordance with Reclamation law.

SEC. 3410. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated such sums as may be necessary to carry out the provisions of this title. Funds appro-

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priated under this title shall remain available until expended without fiscal year limitation.

SEC. 3411. COMPLIANCE WITH STATE WATER LAW AND COORDINATED OPERATIONS AGREEMENT.

(a) Notwithstanding any other provision of this title, the Secretary shall, prior to the reallocation of water from any purpose of use or place of use specified within applicable Central Valley Project water rights permits and licenses to a purpose of use or place of use not specified within said permits or licenses, obtain a modification in those permits and licenses, in a manner consistent with the provisions of applicable State law, to allow such change in purpose of use or place of use.

(b) The Secretary, in the implementation of the provisions of this title, shall fully comply with the United States' obligations as set forth in the "Agreement Between the United States of America and the Department of Water Resources of the State of California for Coordinated Operation of the Central Valley Project and the State Water Project" dated May 20, 1985, and the provisions of Public Law 99-546; and shall take no action which shifts an obligation that otherwise should be borne by the Central Valley Project to any other lawful water rights permittee or licensee.

SEC. 3412. EXTENSION OF THE TEHAMA-COLUSA CANAL SERVICE AREA.

The first paragraph of section 2 of the Act of September 26, 1950 (64 Stat. 1036), as amended by the Act of August 19, 1967 (81 Stat. 167), and the Act of December 22, 1980 (94 Stat. 3339), authorizing the Sacramento Valley Irrigation Canals, Central Valley Project, California, is further amended by striking "Tehama, Glenn, and Colusa Counties, and those portions of Yolo County within the boundaries of the Colusa County, Dunnigan, and Yolo-Zamora water districts or" and inserting "Tehama, Glenn, Colusa, Solano, and Napa Counties, those portions of Yolo County within the boundaries of Colusa County Water District, Dunnigan Water District, Yolo-Zamora Water District, and Yolo County Flood Control and Water Conservation District, or".

TITLE XXXV—THREE AFFILIATED TRIBES AND STANDING ROCK SIOUX TRIBE EQUITABLE COMPENSATION PROGRAM, NORTH DAKOTA

Three Affiliated Tribes and Standing Rock Sioux Tribe Equitable Compensation Act.

SEC. 3501. SHORT TITLE.

This title may be cited as the "Three Affiliated Tribes and Standing Rock Sioux Tribe Equitable Compensation Act".

SEC. 3502. DEFINITIONS.

As used in this title, the term—

- (1) "Secretary" means the Secretary of the Interior;
- (2) "Three Affiliated Tribes" means the Mandan, Hidatsa, and Arikara Tribes that reside on the Fort Berthold Indian Reservation, a Federal reservation established by treaty and agreement between the Tribes and the United States;
- (3) "Standing Rock Sioux Tribe" means the members of the Great Sioux Nation that reside on the Standing Rock Indian Reservation, established by treaty between the Tribe and the United States; and

10-Year Rolling Average of CVP Restoration Fund (ALL YEARS)
 Receipts for Irrigation, M&I, and Commercial Power
 Central Valley Project

Fiscal Year	Irrigation		M&I Water		Commercial Power		Non-Fed Contributions	Total Receipts
	Receipts	10-Year Rolling Average	Receipts	10-Year Rolling Average	Receipts	10-Year Rolling Average	Receipts	
1993	8,488,521		282,532		0		0	8,771,053
1994	12,445,670		3,062,475		5,472,398		0	20,980,543
1995	19,653,199		3,326,054		10,582,808		0	33,562,061
1996	33,963,427		4,532,763		8,328,838		0	46,825,028
1997	28,285,292		6,441,240		1,945,430		0	36,671,962
1998	16,735,441		3,050,510		4,845,695		0	24,631,645
1999	31,450,074		6,339,033		10,911,746		0	48,700,853
2000	28,518,202		6,487,597		11,989,179		0	46,994,978
2001	22,658,904		5,560,639		6,891,001		1,000,000	36,110,545
2002	24,668,330	63.906%	6,525,177	12.847%	20,556,612	22.965%	0	51,750,118
2003	27,019,792	62.269%	5,034,994	12.779%	15,809,615	24.698%	0	47,864,401
2004	27,196,590	63.236%	6,903,465	13.175%	4,181,758	23.346%	0	38,281,814
2005	32,737,905	62.754%	5,873,948	13.034%	18,963,247	23.983%	0	57,575,099
2006	33,853,402	61.590%	7,529,892	13.473%	13,488,271	24.711%	0	54,871,565
2007	28,062,780	61.070%	6,652,464	13.417%	5,366,834	25.288%	0	40,082,078
2008	17,478,762	57.590%	8,436,749	13.752%	27,011,088	28.447%	0	52,926,599
2009	18,692,314	53.694%	6,188,421	13.418%	34,536,089	32.682%	0	59,416,823
2010	31,260,772	54.150%	6,026,431	13.296%	10,681,594	32.348%	0	47,968,797
2011	30,438,715	53.224%	7,797,695	13.133%	20,960,452	33.643%	0	59,196,862
2012	26,821,459	52.843%	11,816,747	13.958%	20,862,633	33.198%	0	59,500,839
2013	17,859,043	51.490%	8,413,096	14.730%	17,404,274	33.779%	0	43,676,413
2014	6,420,484	46.717%	5,534,067	14.242%	34,320,653	39.041%	0	46,275,204
2015	4,172,943	42.004%	3,528,415	14.047%	40,389,697	43.949%	0	48,091,055
2016	12,688,521	37.454%	6,907,972	13.773%	40,954,898	48.772%	0	60,551,392
TOTAL	541,570,543		142,252,374		386,454,810		1,000,000.00	1,071,277,727

Capital Costs:	Irrigation		M&I Water		Commercial Power		
FY 1993 - 2002	14,486,575,554	60.031%	4,610,396,615	19.105%	5,034,866,339	20.864%	24,131,838,508
FY 1994 - 2003	14,632,880,488	60.126%	4,552,428,315	18.706%	5,151,536,987	21.168%	24,336,845,790
FY 1995 - 2004	14,746,727,751	60.275%	4,473,508,093	18.285%	5,245,527,205	21.440%	24,465,763,049
FY 1996 - 2005	14,849,152,166	60.419%	4,389,655,764	17.861%	5,338,023,815	21.720%	24,576,831,745
FY 1997 - 2006	14,951,521,682	60.624%	4,304,226,069	17.452%	5,407,051,351	21.924%	24,662,799,102
FY 1998 - 2007	15,030,984,263	60.843%	4,216,611,404	17.068%	5,457,134,543	22.089%	24,704,730,210
FY 1999 - 2008	15,092,295,014	60.797%	4,174,222,599	16.815%	5,557,613,187	22.388%	24,824,130,800
FY 2000 - 2009	15,134,750,359	60.715%	4,138,874,526	16.604%	5,653,754,512	22.681%	24,927,379,397
FY 2001 - 2010	15,141,844,018	60.596%	4,084,990,814	16.348%	5,761,288,940	23.056%	24,988,123,772
FY 2002 - 2011	15,158,866,330	60.277%	4,039,444,885	16.062%	5,950,484,470	23.661%	25,148,795,685
FY 2003 - 2012	15,189,349,951	60.043%	3,974,837,099	15.712%	6,133,123,655	24.244%	25,297,310,705
FY 2004 - 2013	15,325,460,684	59.676%	3,988,167,708	15.530%	6,367,409,119	24.794%	25,681,037,511
FY 2005 - 2014	15,476,328,114	59.306%	3,990,600,848	15.292%	6,628,834,262	25.402%	26,095,763,224
FY 2006 - 2015	15,632,829,707	58.951%	3,989,156,865	15.043%	6,896,223,528	26.006%	26,518,210,100

**JOINT TRIAL
 EXHIBIT 2
 No. 14-817C**

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

**NORTHERN CALIFORNIA POWER
AGENCY, *et al.*,**
Plaintiffs,**v.****THE UNITED STATES,****Defendant.**

No. 14-817C
(Judge Tapp)

**DEFENDANT'S RESPONSES TO
PLAINTIFF'S FOURTH SET OF INTERROGATORIES**

Pursuant to Rule 33 of the Rules of the United States Court of Federal Claims (RCFC), defendant, the United States, serves its responses to the fourth set of interrogatories served by plaintiffs.

FOURTH SET OF INTERROGATORIES

INTERROGATORY NO. 25

Please provide, in dollars and percentage terms, the “respective allocations for repayment of the [CVP]” for ten-year periods FY2007-2016, 2008-2017, 2009-2018, 2010-2019, and 2011-2020, using the same process, cost allocation study, and assumptions that were used to derive the dollar amounts and percentages in Joint Exhibit 2 for earlier years.

RESPONSE: Our response to Interrogatory No. 25 is contained in the table below.

Capital Costs	Irrigation		M&I Water		Commercial Power		TOTAL
FY 2007-2016	15,803,072,469	58.64%	3,985,210,863	14.79%	7,163,146,569	26.58%	26,951,429,902
FY 2008-2017	15,978,145,127	58.33%	3,982,679,794	14.54%	7,432,720,078	27.13%	27,393,544,999

FY 2009-2018	16,179,529,307	58.01%	3,987,841,532	14.30%	7,724,209,548	27.69%	27,891,580,388
FY 2010-2019	16,316,144,947	57.59%	4,016,099,306	14.17%	8,000,120,310	28.24%	28,332,364,562

The annual allocation for 2020 has not been completed, therefore, the “respective allocations for repayment of the [CVP]” for 2011 – 2020 cannot be provided.

AS TO RESPONSES:

SPENCER
WALDEN

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SPENCER WALDEN
Date: 2021.05.18
14:07:23 -07'00'

Spencer Walden

Dated: May 18, 2021

BRIAN M. BOYNTON
Acting Assistant Attorney General

MARTIN F. HOCKEY, JR.
Acting Director

/s/ Franklin White, Jr.
FRANKLIN E. WHITE, JR.
Assistant Director

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Attorneys for Defendant

May 18, 2021

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Trial

Northern California Power Agency v. USA

1/16/2018

1 When we left off before lunch, we were
2 looking at some of the work papers with one of your
3 suspense account transfers so we'll go ahead and
4 pull that up again.

5 THE COURT: Before we get to that there's
6 one housekeeping matter I wanted to attend to.
7 Sorry to interrupt. We kind of blew past the
8 question of what exhibits are admitted into
9 evidence, and I wanted to get that on the record,
10 and hopefully we can do it without too much
11 difficulty.

12 I'm assuming all of the joint exhibits are
13 admitted into evidence; is that right?

14 MR. RALSTON: Yes, Your Honor.

15 THE COURT: So that's Joint Exhibits 1
16 through 49. Or are there more than 49?

17 MR. MURRAY: I believe it's just 49, Your
18 Honor.

19 THE COURT: Okay. And then can somebody
20 easily describe what else is in evidence? It would
21 be basically all other exhibits to which there is no
22 objection. Is there an easy way to identify what
23 those are?

24 MR. MURRAY: Your Honor, my understanding,
25 and I'll certainly let Mr. Oliver correct me if I'm

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Appx0031

322

Trial

Northern California Power Agency v. USA

1/17/2018

1 A I believe they do assess it when they're
2 late. I don't know exactly when they assess it,
3 but --

4 Q You send out a letter every year notifying
5 water contractors of what the inflated CVPIA charges
6 are for the upcoming fiscal year, correct?

7 A Correct.

8 MS. BAE: Objection. Outside the scope of
9 my examination.

10 MR. MURRAY: Your Honor, I'm addressing a
11 late fee issue.

12 THE COURT: Go ahead.

13 BY MR. MURRAY:

14 Q That letter tells water contractors that if
15 they are late on these payments, they will be
16 assessed late fees in accordance with the debt
17 collection act, correct?

18 A Correct.

19 Q And to your knowledge, those late fees have
20 not been assessed against water contractors for late
21 restoration fund payments, have they?

22 A I'm not aware of any.

23 Q If we can pull up -- let's go to Joint
24 Exhibit 2. I believe this is the same exhibit you
25 were looking at earlier as a defense exhibit, but

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Appx0032

Trial

Northern California Power Agency v. USA

1/17/2018

1 does this -- this is the ten-year rolling average
2 assessment of collections and repayment allocation,
3 correct?

4 A Yes.

5 Q And so at the bottom of the page, what you
6 weren't looking at this morning was the repayment
7 allocations for power versus the water functions,
8 correct?

9 A Yes.

10 Q And that's done on a ten-year rolling
11 average?

12 A Yes.

13 Q And that's what the restoration fund says
14 in terms of how the repayment allocation should be
15 measured for proportionality if they're on the
16 ten-year rolling average basis?

17 A Yes.

18 Q And you were asked actually to get up and
19 do some calculations for a couple of individual
20 years.

21 For fiscal year 2008 to 2016, do you see
22 any year in which the ten-year rolling average was
23 less of the collections for power than their
24 repayment allocation?

25 MS. BAE: Objection. Confusing. Vague and

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663

Trial

Northern California Power Agency v. USA

1/18/2018

1 Q Well, the data, however -- I'm just using
2 the actual percentage, it says: Percentage of
3 restoration funds collected from power. And the
4 actual percentage at the bottom in blue is
5 apparently presented on an annual basis. It's not
6 averaged, is it?

7 A Does not appear to be.

8 Q Now, the statute requires that the
9 comparison between M&R payments and the repayment
10 allocation be done on a ten-year average basis,
11 right?

12 A That is correct.

13 Q Do you have JX 2 in front of you?

14 A Yes, I do.

15 Q And that Joint Exhibit shows the respective
16 ten-year rolling averages were mitigation and
17 restoration payments up in the top set of data,
18 correct? The ten-year rolling average column,
19 right?

20 A Yes, it does.

21 Q And at the bottom right beneath there it
22 shows for commercial power its ten-year rolling
23 average with respect to repayment allocation, right?

24 A Yes, it does.

25 Q So if one were doing the appropriate

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Appx0034

Trial

Northern California Power Agency v. USA

1/18/2018

1 comparison between the M&R payments and repayment
2 allocation, it's using the ten-year rolling average,
3 right?

4 A The requirement is for ten-year rolling
5 average.

6 Q In both cases?

7 A Yes.

8 Q Yet the chart here, DDX 1, does not use
9 ten-year rolling average, does it?

10 A It may be using a ten-year rolling average
11 for the proportional average percentage.

12 Q All right. But not for the actual
13 percentage of restoration funds?

14 A Does not appear to be.

15 Q And Reclamation doesn't even really employ
16 the ten-year rolling averages, does it?

17 A What do you mean by that?

18 Q It doesn't employ them because you don't do
19 the proportionality analysis? You don't do, as you
20 testified earlier, the target allocation
21 calculation?

22 A There has not been a need to do the target
23 allocation.

24 Q Let us turn to Joint Exhibit 3 at page 9
25 which is the statute, and that should be section

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IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER
AGENCY, *et al.*,

Plaintiffs,

v.

THE UNITED STATES,

Defendant.

No. 14-817C
(Judge Tapp)

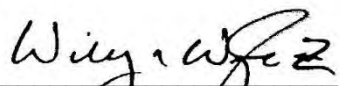
DECLARATION OF WILEY R. WRIGHT III

1. My name is Wiley R. Wright, III. I am a certified public accountant (CPA) licensed by the Commonwealth of Virginia. I have given expert accounting and damages testimony on over 150 occasions. I have been qualified as an expert and have testified before numerous federal and state courts, federal and state boards of contract appeals, and domestic and international arbitration panels.
2. I have personal knowledge of the facts set forth in this Declaration. I am competent to testify about these facts, and would do so if called.
3. I have been retained by the plaintiffs in this case—Northern California Power Agency (NCPA) and the Cities of Redding, Roseville, and Santa Clara, California—to provide my opinions about the methods and data to use to compute damages in this case. I also have been asked to perform and present the necessary damage calculations.
4. I provided two principal expert reports and two supplemental expert reports in this matter. A copy of the Expert Report of Wiley R. Wright, III CPA, dated August 12,

2021, appears at Exhibit A to this declaration and sets forth the bases for, and my calculation of Plaintiffs' damages. A copy of the Rebuttal Expert Report of Wiley R. Wright, III CPA, dated September 13, 2021, appears at Exhibit B. A copy of the Supplemental Expert Report of Wiley R. Wright, III CPA, dated September 10, 2021, appears at Exhibit C. A copy of the Second Supplemental Expert Report of Wiley R. Wright, III CPA, dated November 15, 2021, appears at Exhibit D. Neither of my supplemental reports alter my calculation of Plaintiffs' damages as set forth in my initial expert report (Exh. A). A copy of my most current resume, setting forth further details including my prior testimony and publications appears at Exhibit E to this Declaration.

5. I have reviewed the reports appearing at Exhibits A, B, C, and D, and subject to the corrections set forth in my supplemental reports, I stand by those reports. If called to testify under oath about my reports and the matters discussed, I would do so and would stand by the truth and accuracy of the contents of those reports. I reserve the right to supplement the opinions set forth in my reports to the extent necessary to respond to any new material matter, not already provided in discovery.
6. Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing statements in this Declaration, as well as the statements and calculations in, and attachments to my reports (as corrected by my supplemental reports) are true and correct.

Executed on: December 16, 2016


Wiley W. Wright, III

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER AGENCY, ET AL.,

Plaintiffs,

v.

THE UNITED STATES,

Defendant.

Case No. 14-817C

Expert Report of
Wiley R. Wright, III CPA
August 12, 2021

NORTHERN CALIFORNIA POWER AGENCY, ET AL.

v.

THE UNITED STATES

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Attachments

Attachment I: Resume of Wiley R. Wright, III CPA

Attachment II: Documents, Data or Other Information Considered

Attachment III: Schedules

Schedule 1: CVPIA Restoration Fund Commercial Power Damages Assessment - No Lag

Schedule 2: CVPIA Restoration Fund Commercial Power Damages Assessment – No Lag
(Recomputed)

Schedule 3: CVPIA Restoration Fund Commercial Power Damages Assessment– 2-year Lag

Schedule 4: CVPIA Restoration Fund Commercial Power Damages Assessment – 2-year Lag
(Recomputed)

NORTHERN CALIFORNIA POWER AGENCY, ET AL.

v.

THE UNITED STATES

I. INTRODUCTION AND SCOPE OF WORK

1. My name is Wiley R. Wright, III. I have been retained by the plaintiffs in this case—Northern California Power Agency (NCPA) and the Cities of Redding, Roseville, and Santa Clara, California—to provide my opinions about the methods and data to use to compute damages in this case. I also have been asked to perform and present the necessary damage calculations.
2. For my analysis and testimony, I will be compensated at my usual hourly rate of \$350.
3. The Cities of Redding, Roseville, and Santa Clara are members of NCPA, and in this report I sometimes refer to the plaintiffs collectively as NCPA.
4. As discussed below, this is an overcharge case. In 2014, the plaintiffs filed a complaint¹ alleging that the United States imposed charges on them—called “mitigation and restoration” (M&R) payments—that exceeded the amounts authorized by the Central Valley Project Improvement Act (CVPIA). The trial court dismissed the complaint,² but the court of appeals reversed that judgment³ and agreed with the plaintiffs that the CVPIA imposes a binding proportionality limitation on the charges for which plaintiffs properly could be held responsible. Under the CVPIA, M&R payments (and sometimes other payments) are assessed against entities that contract for water sold and delivered by the Central Valley Project (CVP or Project) and customers (of whom plaintiffs are a subset) that contract for hydroelectric generation capacity and energy. The CVPIA requires that the M&R payments imposed on CVP water and power customers should be assessed, to the greatest degree practicable, in the same proportion measured over a ten-year rolling average as water and power customers’ respective allocations of responsibility to repay CVP costs. The United States, however, did not abide by that limitation and instead imposed disproportionate charges upon the plaintiffs and other power contractors. NCPA has asked me to quantify the proportionate amounts that the United States should have charged during the relevant period and the disproportionate excess that it actually charged, which the Government should pay as damages.

¹ Compl., *N. Cal. Power Agency v. United States*, 139 Fed. Cl. 74 (2018) (No. 14-817C).

² *N. Cal. Power Agency v. United States*, 139 Fed. Cl. 74 (Ct. Fed. Cl. 2018).

³ *N. Cal. Power Agency v. United States*, 942 F.3d 1091 (Fed. Cir. 2019).

NORTHERN CALIFORNIA POWER AGENCY, ET AL.

v.

THE UNITED STATES

5. As part of my analysis of NCPA's damages in this matter, I have reviewed the defendant United States' preliminary damage calculations, which are contained in its fact discovery materials. However, the defendant has explained that it will present the details of its calculations and assumptions in its expert report and expert discovery. This report does not address the Government's preliminary damages calculation except to point out that it appears to be based on inappropriate after-the-fact adjustments to the cost allocations that were in effect when the charges at issue were imposed. I anticipate addressing in my rebuttal report the particulars of the adjustments and calculations presented in the Government's expert report.

II. EXPERT QUALIFICATIONS AND PREVIOUS TESTIMONY

6. I am the National Practice Leader of BDO's Construction and Environmental Solutions Practice and a certified public accountant (CPA) licensed by the Commonwealth of Virginia. I have provided analysis and consultation on a wide variety of damage issues relating to litigation matters during my forty-plus-year career in public accounting and consulting. A copy of my resume, setting forth further details including my prior testimony and publications, is included as Attachment I to this report.
7. I have given expert accounting and damages testimony on over 150 occasions, both in depositions and in trial proceedings, in the areas of damage methodologies and calculations in connection with construction contract disputes, cost recovery actions, federal and state government contract disputes, cost accounting matters, economic damages and forensic investigations. I have been qualified as an expert and have testified before numerous federal and state courts, federal and state boards of contract appeals, and domestic and international arbitration panels.
8. In addition to litigation and expert witness services, I have over 40 years of experience consulting on construction and government contract matters. With respect to construction projects, I have significant experience with: Airports, Oil and Gas Facilities and Pipelines, Bridges and Tunnels, Industrial Facilities, Nuclear, Gas and Coal Fired Power Plants, Military and Commercial Launch Facilities, Waste Water Treatment Facilities, Jails and Prisons, Stadiums, Aqueducts, Subway and Transit, and Highways and Roads.

NORTHERN CALIFORNIA POWER AGENCY, ET AL.

v.

THE UNITED STATES

9. With respect to government contract matters, I have over 40 years of experience with Federal Acquisition Regulation compliance, Requests for Equitable Adjustment, Certified Claims, Termination for Convenience claims, false claim and fraud investigations, and other economic damage matters.
10. With respect to the Bureau of Reclamation, I have experience analyzing the Bureau's accounting systems, allocation methodologies and cost records.
11. I co-authored a chapter entitled "Damages in Construction Arbitrations" included in the 2016 book *The Guide to Damages in International Arbitration* published by Law Business Research Ltd, London. I also co-authored a chapter entitled "Types of Financial Reports and Opinions Issued by CPAs and Applicable Professional Standards" included in the 2010 book *Construction Accounting – A Guide for Attorneys and Other Professionals* published by the American Bar Association Forum on the Construction Industry. I also co-authored an article published in the Maryland Association of Certified Public Accountants *CPA Statement* entitled, "Professional Standards Applicable to Litigation Support." I have taught courses and given presentations on financial and economic damages before a variety of professional groups, including the Colorado Society of Certified Public Accountants, the American Bar Association, and the Virginia Bar Association. I am a graduate of George Mason University.
12. I am responsible for the services performed and the opinions given herein and have personally rendered or reviewed the analysis performed by the members of our staff with respect to them. Use of the words "I", "my", "we", and "our" throughout this report means myself and the BDO professionals working under my direction and supervision.
13. All work performed by BDO was completed in accordance with the American Institute of Certified Public Accountants (AICPA) Statement on Standards for Forensic Services.⁴ These standards require, in part, that the practitioner obtain sufficient relevant data to afford a reasonable basis for conclusions or recommendations in relation to any professional services provided. I have done so for the work performed and opinions expressed herein.
14. The documents, data and information that I considered in performing my analysis are the types of documents, data and information that experts in my field typically consider and rely upon in performing similar damages engagements.

⁴ Statement on Standards for Forensic Services (SSFS) No. 1 (FS sec. 100).

NORTHERN CALIFORNIA POWER AGENCY, ET AL.

v.

THE UNITED STATES

III. FACTUAL BACKGROUND

A. THE CENTRAL VALLEY PROJECT

15. The CVP is a single, financially and operationally integrated multipurpose water resources project operated by the United States Bureau of Reclamation (Bureau or Reclamation) that supplies water to more than 200 long-term water contractors in the Central Valley, the San Francisco Bay Area, and the Santa Clara Valley. The Project's facilities and service areas cover a large geographic area including 35 of California's 58 counties.
16. The CVP has eight authorized purposes: water supply, power, flood control, water quality, recreation, navigation, fish and wildlife enhancement, and fish and wildlife mitigation.
17. The water supply function involves storing and delivering water to be used for agricultural irrigation (Irrigation) or municipal and industrial (M&I) purposes.
18. The power function involves generating and transmitting electric energy that is either used for project purposes (e.g., water pumping) or sold to electric power purchasers (commercial power). In this report, when I refer to the power function, power users, or power contractors, I mean commercial power. The plaintiffs are power contractors. During the damages period at issue here, the plaintiffs purchased and paid for roughly 40 to 42 percent of all CVP power sold to CVP power contractors.
19. Project facilities include dams and reservoirs, water pumping plants, and canals, aqueducts, and other facilities used to deliver water. They also include hydroelectric power plants and transmission lines used to produce and deliver the CVP generating capacity and electric energy sold to CVP power contractors.
20. The United States incurred the costs to construct the CVP facilities. Water and power contractors reimburse the United States Treasury for a portion of those costs.
21. The Bureau operates the CVP and contracts directly with Irrigation and M&I water users. There are two types of contracts: water service contracts and repayment contracts. Repayment contracts require contractors to repay specific cost amounts over fixed time periods, without regard to how much water is available or delivered. Water service contracts require the contractors to pay rates based on the amount of water delivered. Rates under both types of contracts are also calculated to ensure adequate contributions to the repayment of

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project costs. Regardless of the form of contract for repayment of CVP costs, water customers pay M&R charges based on the amounts of water delivered.

22. Commercial power users contract with the Western Area Power Administration (Western or WAPA), which acts as billing agent for the Bureau. The Bureau annually determines the total amount of money that must be collected from power users each year to cover their share of Project operation and maintenance (O&M) expenses, repayment of Project capital costs by the end of the repayment period, and the M&R payments at issue in this case. The Bureau informs Western of the revenue requirement for each year, and Western collects the money from each power contractor in proportion to the contractor's fixed percentage share of CVP electric output as established in Western's contracts with the power customers.⁵ Power contractors are required to pay the M&R payment amounts regardless of how much electricity actually is delivered.
23. The United States has performed cost allocation studies at intervals over the years to determine how to allocate Project costs among the authorized purposes and, if needed, how to sub-allocate costs among users within a purpose (e.g., dividing water supply costs among Irrigation and M&I water users). One particular study is relevant to calculating damages in this case. That is the "Central Valley Project California Reallocation of CVP Costs, FY 1969-70"⁶ as updated by a Bureau of Reclamation Memo entitled "Changes Caused by the Reallocation of the Central Valley Project Costs" (March 8, 1976).⁷ That study was the one in effect during the damage period relevant here, which Counsel informs me runs from fiscal year (FY) 2008 through FY 2020. In 2001, the Bureau prepared another study entitled the "Central Valley Project Cost Allocation Study" (May 2001).⁸ That study was never finalized, as Reclamation determined at that time that the "[then-]existing allocation is the preferred allocation method and will continue to use it for CVP plant-in-service allocations."⁹

⁵ The Western contracts refer to this fixed percentage share of CVP output as the contractor's "Base Resource Percentage."

⁶ Defendant produced a copy of this study in discovery with Bates Nos. GOV0000125 through GOV0000446.

⁷ Defendant produced a copy of this study in discovery with Bates Nos. GOV0000105 through GOV0000124.

⁸ Defendant produced a copy of this study in discovery with Bates Nos. GOV0000605 through GOV0000731.

⁹ Memorandum from Kirk C. Rodgers, Acting Reg'l Director, U.S. Dep't of Interior, Bureau of Reclamation, regarding Central Valley Project Cost Allocation Study, May 2001 (June 25, 2001) (GOV0000606).

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24. The United States also performs annual cost allocation updates applying the principles and allocation factors from the then-current cost allocation study to annual plant-in-service balances.
25. The studies and annual updates together produce annual computations of the CVP costs allocated to water and power users for eventual repayment. The studies and updates inform the annual setting of rates for water service contracts and power contracts with Western, as well as the negotiation of longer-term repayment contracts.
26. In January 2020, the United States issued another cost allocation study titled the “Central Valley Project Final Cost Allocation Study.”¹⁰ The study was issued in the middle of FY 2020 and was not used in setting rates for that year.¹¹ The Bureau first used the study to set rates beginning with FY 2021. In discovery, the United States was asked to identify each instance in which it “revised, rebilled, credited, surcharged, or otherwise adjusted the CVP repayment amount previously paid by a CVP Water User or CVP Power User.” The United States responded that:

Water contractor repayment is only adjusted when an error occurs. The agency makes adjustments based on reconciliations only when an error in repayment has been identified. Reconciliations take place on an ongoing basis. Power contractor repayment is performed by WAPA. The sole purpose of an adjustment is to demonstrate errors in entering and accounting for how payments are credited.¹²

B. THE CENTRAL VALLEY PROJECT IMPROVEMENT ACT

27. In 1992, to offset the environmental impacts from the Central Valley Project, Congress passed the Central Valley Project Improvement Act (CVPIA). As part of the CVPIA, Congress created a fund designated as the “Restoration Fund” to be used to restore fish and wildlife habitats within the Central Valley Project.¹³ To raise money for the Restoration Fund, Congress directed the Secretary of the Interior (the Secretary) to assess several types of charges to CVP water and power customers. The M&R charge is at issue in this case.

¹⁰ Defendant produced a copy of this study in discovery with Bates Nos. GOV0000447 through GOV0000604.

¹¹ The fiscal year for the federal government begins on October 1 and ends on September 30.

¹² See Def.’s Resp. to Pl.’s Interrog. No. 21.

¹³ *N. Cal. Power Agency v. United States*, 139 Fed. Cl. 74, 77 (2018).

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28. CVPIA section 3407(d)(2)(A)¹⁴ sets limits on the amounts of M&R payments to be assessed to water and power users. For example, the Secretary may not charge more than \$6 per acre-foot for agricultural water and \$12 per acre-foot for M&I water sold and delivered by the Central Valley Project. (These and other dollar amounts in the CVPIA are stated in October 1992 price levels; accordingly, the Bureau adjusts the dollar amounts annually to account for inflation.)
29. CVPIA section 3407(d)(2)(A) also provides that the M&R payments assessed to water and power users should be proportional to their responsibility for repayment of the CVP on a ten-year rolling average basis. Specifically, the statute states that: “the amount of the mitigation and restoration payment made by Central Valley Project water and power users, taking into account all funds collected under the Act, shall, to the greatest degree practicable, be assessed in the same proportion, measured over a ten-year rolling average, as water and power users’ respective allocations for repayment of the Central Valley Project.”¹⁵ In this report, I refer to this as the proportionality limitation.
30. Section 3407(d)(2)(A) also states that total M&R payments—whether paid by water users or power users—shall not exceed \$30 million per year on a three-year rolling average basis. Upon the completion of certain activities required by the statute, that cap will be reduced to \$15 million per year.

C. THE CURRENT LITIGATION

31. I understand that, despite the proportionality limitation, the defendant historically prioritized collecting \$30 million in annual M&R payments on a three-year rolling average basis. I further understand that because the amount collectable from water users was limited by law and hydrology and often fell short of the water users’ proportional share, the defendant charged to power users the difference between the water users’ payments and \$30 million. As a result, the amounts charged to power users often exceeded their proportional shares.
32. In 2014, plaintiffs filed a lawsuit in the U.S. Court of Federal Claims, alleging that the United States had charged them excessive M&R payments. The court agreed with the defendant’s

¹⁴ Central Valley Project Improvement Act, Pub. L. No. 102-575, 106 Stat. 4727-28 (1992).

¹⁵ CVPIA section 3407(d)(2)(A).

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view that the CVPIA allowed the Bureau to prioritize collections over proportionality and to adopt its power-pays-the-difference policy, and dismissed the complaint.¹⁶

33. The U.S. Court of Appeals for the Federal Circuit reversed that determination, and held that “[t]he proportionality requirement . . . takes priority over” the statute’s collection target.¹⁷ The court of appeals remanded the case to the Court of Federal Claims for calculation of damages.
34. In discovery after the remand, plaintiffs’ interrogatory number 17 asked the defendant to provide its calculation of the damages owed and the bases for that calculation. The United States answered, in part, that “[t]he amount of damages owed is the difference between the calculated amount consistent with the Federal Circuit’s opinion in *NCPA v United States* and what was actually paid. That amount is \$68,154,911.” The United States provided some explanation of the basis for its calculation, but added that it would “disclose the details of our damages calculation and the assumptions underlying that calculation during the expert discovery phase of this litigation.”¹⁸ As explained below, I agree that damages here are the difference between what plaintiffs actually paid and what they should have paid had proportionality been applied as a binding limitation during the damages period. I disagree with the defendant’s preliminary calculations of what plaintiffs should have paid and their damages.

IV. SUMMARY OF OPINIONS

35. I have quantified plaintiffs’ damages for the period FY 2008 through FY 2020 by comparing the actual amounts they paid to the amounts they should have paid during the damages period applying proportionality.
36. To determine the proportional ratios of water and power M&R payments, I relied on a joint exhibit introduced during the liability phase of this case showing calculations of water users’ and power users’ respective allocations for repayment of CVP capital costs during the damages period. Specifically, I relied on a document that was introduced into evidence

¹⁶ See *N. Cal. Power Agency v. United States*, 139 Fed. Cl. 74 (2018).

¹⁷ *N. Cal. Power Agency v. United States*, 942 F.3d 1091, 1098-99 (Fed. Cir. 2019).

¹⁸ Def.’s Resp. to Pl.’s Interrog. No. 17.

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during the 2018 trial before the Court of Federal Claims as “Joint Exhibit 2,”¹⁹ which provided those amounts for rolling ten-year periods through the period ending with FY 2015. As the exhibit title indicates, these data were jointly sponsored by both the plaintiffs and the defendant. I also relied on defendant’s response to plaintiffs’ interrogatory 25, which provided corresponding ten-year amounts through the period ending with FY 2019. I also checked those amounts against—and ran alternative damages calculations using—the annual cost allocations that the Bureau produced during the damages period based on the 1970 study (as updated in 1976), which produce ten-year sums and percentages that agree closely with the numbers in Joint Exhibit 2 and interrogatory response 25.²⁰ I find that Joint Exhibit 2 and the defendant’s response to interrogatory 25 are the most appropriate and least speculative measures of the proportionality limitation that should have applied during the damages period.

37. Using the percentages from Joint Exhibit 2 and interrogatory 25, I computed the power M&R payments that would have been proportional to water users’ M&R payments, and ensured that the sums of those amounts would not have exceeded the statutory cap of \$30 million per year (October 1992 price levels) on a three-year rolling average basis. I thus conclude that these amounts reflect what power contractors should have paid during the damages period.
38. As noted above, damages in this case are the difference between what plaintiffs actually paid and what they should have paid had proportionality been applied during the damages period. Using these data and this method, I compute damages as follows:²¹

Damages computed using Joint Exhibit 2 and interrogatory response 25	Damages computed using then-contemporaneous annual cost allocations
\$81,872,385	\$82,231,012

I calculated these amounts by finding the level of power M&R payments each year that would have been proportional to the M&R payments by water users during the same year.

39. The preliminary damage calculation produced by defendant in response to interrogatory 17 (Bates No. GOV0000002) takes a different approach: it calculates the level of power M&R

¹⁹ *10-Year Rolling Average of CVP Restoration Fund (ALL YEARS), Receipts for Irrigation, M&I, and Commercial Power, Central Valley Project*, Bates No. DEF-PROD-00188930 (Ex. 2).

²⁰ See Attachment III, Schedules 2 & 4 to this report.

²¹ See Schedules 1 & 2.

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payments that would have been proportional, in defendant's view, to the M&R payments by water users two years earlier. The so-called "two-year lag" was adopted by Reclamation for use in calculating power contractor M&R charge payments on a going-forward basis, beginning in FY 2021. Counsel has asked me to prepare an alternative damages calculation using that approach. Using the two-year-lag method, the corresponding damages amounts are:²²

Damages computed using Joint Exhibit 2 and interrogatory response 25	Damages computed using then-contemporaneous annual cost allocations
\$85,990,156	\$85,962,400

I find that for damages purposes the current-year calculation is more consistent with the statutory text and historical practice, as Reclamation was not employing a two-year lag to calculate power contractor CVPIA charges during the damages period. I express no opinion regarding the use of the two-year lag for going-forward purposes.

40. In discovery, the defendant acknowledged that it charged plaintiffs more than it should have charged consistent with the Federal Circuit's opinion in *N. Cal. Power Agency v. United States* and stated that the difference—the "damages owed"—was \$68,154,911.²³ I find that this amount is significantly understated and reflects the use of erroneous and inappropriate inputs.
41. Most importantly, the Government's preliminary calculation uses incorrect proportionality percentages. The Government derives those percentages by making certain adjustments to the annual CVP cost allocation updates that were prepared each year during the damages period. The changes to these historical figures appear to reflect a retroactive application, solely for purposes of performing damage calculations, of cost allocation changes adopted prospectively in the 2020 cost allocation study. As discussed below, I believe those changes are inappropriate and unduly speculative because they were not in effect during the damages period, and the Government has said it does not plan to apply them retroactively to recalculate and rebill contractors' past CVP repayment amounts.²⁴ Nor does the Government plan to apply these percentages retroactively to revise and rebill contractors' past M&R

²² See Schedules 3 & 4

²³ See Def.'s Resp. to Pl.'s Interrog. No. 17.

²⁴ See Def.'s Resp. to Pl.'s Interrog. No. 21.

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payments.²⁵ Accordingly, as I explain below, my opinion is that these percentages should not be applied retroactively to calculate plaintiffs' damages.

42. In discovery, the Government provided partial explanations of some of its adjustments but stated that "[w]e will disclose the details of our damages calculation and the assumptions underlying that calculation during the expert discovery phase of this litigation."²⁶ I will comment on the merits of the specific adjustments when I have reviewed the details of the Government's damages calculation and assumptions provided in its initial expert report.

V. BASES FOR OPINIONS

43. In this section, I provide the bases for my opinions.

44. This case concerns the amount of overcharges that the Bureau collected from the plaintiffs.

The parties seem to be in agreement that this amount should be calculated as the difference between what plaintiffs actually paid and what they should have paid during the damages period had the Bureau implemented the statutory proportionality requirement. Plaintiffs pay fixed percentages of the M&R payments assessed to all power contractors. Accordingly, I have calculated the dollar amount that all power contractors should have paid Reclamation during the damages period and compared that amount to what they actually paid during that period. Plaintiffs' damages reflect their share of power contractors' total overpayment during the damages period.

45. To avoid undue speculation, any assessment of what power contractors should have paid during the damages period should reflect the facts and circumstances that existed at the time when the charges were levied. Consequently, the relevant data needed to calculate what the defendant should have charged includes: (a) the actual, historical CVPIA receipts collected from water users for FYs 2008 through 2020; (b) the actual, historical CVPIA receipts collected from power users for the same period; and (c) the actual, historical amounts of CVP capital costs that the Bureau then determined water and power users should repay.²⁷

46. The schedules included as Attachment III to this report shows my damages calculations. Here I describe the methods and formulas used to calculate those amounts.

²⁵ See Def.'s Resp. to Pl.'s Interrog. No. 23.

²⁶ Def.'s Resp. to Pl.'s Interrog. No.17.

²⁷ If the Government's two-year lag method were adopted, the required data would go back to FY 2006.

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A. FORMULAS

47. To calculate power's total overpayment, I compare what the defendant actually charged to the proportional amount that it should have charged. The formula for computing the proportional amount can be stated algebraically as:

$$\text{Power Proportional M\&R} = \frac{\text{Water CVPIA Receipts}}{\text{Water CVP Repayment \%}} \times \text{Power CVP Repayment \%}$$

In Schedule 1, I calculate the power M&R payment amount that would be proportional to actual water CVPIA receipts for the same year.

48. In Schedule 1, actual water CVPIA receipts are set forth in columns E and F.²⁸ Power contractors' 10-year rolling average shares of CVP repayment allocations are set forth in column J. As discussed below, those percentages come from Joint Exhibit 2 and the defendant's response to interrogatory 25. The water contractors' repayment percentage is a computed amount calculated as 100% minus the power contractors' percentage. Using these inputs, Schedule 1 calculates in column K the proportional amount that power contractors collectively should have paid in each FY from 2008 through 2020. Column D sets forth the amounts that power contractors actually paid for those FYs.²⁹ Column L computes the difference between what power contractors actually paid (column D) and what they should have paid (column K) during the damages period. Columns M and N compute the plaintiffs' shares of the total overpayment by all power contractors,³⁰ and column O summarizes the result.
49. CVPIA section 3407(d)(2)(A) requires that power's M&R payments be proportional to water's payments "taking into account all funds collected under this title." Accordingly, counsel has asked me to include in "Water CVPIA Receipts" in the above formula both water contractors' M&R payments (Schedule 1, column E) and other payments that water users make under the statute (Schedule 1, column F). My damages calculations therefore reflect the inclusion of those amounts.

²⁸ Bates No. GOV0000002. While I disagree with the Government's damages computation, I do not contest their accounting of CVPIA receipts.

²⁹ Bates No. GOV0000002. While I disagree with the Government's damages computation, I do not contest their accounting of CVPIA receipts.

³⁰ This calculation uses the plaintiffs' cumulative Base Resource Percentages that were in effect when the charges were imposed. Bates No. PL_REMAND_00000347 BR Spreadsheet.

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50. The Government's preliminary damages calculations (Bates No. GOV0000002) compute purportedly proportional power payments on a two-year lagging basis. For example, for FY 2016, the defendant calculated power payments that it claimed to be proportional to water's payments for FY 2014. The defendant's calculations use CVP repayment percentages for the ten-year period ending in the same FY as the water receipts—in this example, for FYs 2005 through 2014.
51. I understand that the Bureau adopted this method after the court of appeals decision, and used it to calculate proportional charges to be collected from power contractors for FY 2021. My understanding is that the Bureau intends to continue using the lagged method going forward.
52. Before FY 2021, the defendant calculated power's CVPIA charges using its power-pays-the-difference method. The defendant applied that method on a current-year basis. In other words, the defendant set power's CVPIA charges for a given year based on the difference between the \$30 million target (1992 dollars) and water's M&R payments for that year. The Bureau set charges preliminarily based on projected water receipts for the year, and then performed a true-up when actual water receipts for the year were known. I find it reasonable in calculating damages to apply proportionality the same way—on a current-year basis consistent with the Bureau's historical approach for imposing CVPIA charges during the damages time period. Accordingly, the soundest approach to calculating damages is to apply proportionality without any lag, so that power customers' CVPIA charges for a given year are proportional to water customers' CVPIA payments for the same year.
53. Nonetheless, I recognize that there is at least one advantage to the lagged approach for purposes of calculating damages. The defendant stated in discovery that CVP cost allocations for FY 2020 are not yet available, which makes it impossible to compute the average allocations for the ten-year period ending with FY 2020. That means damages using the current-year approach can be calculated with precision only through FY 2019; damages for 2020 must rely on an estimate of the allocation percentages for the final rolling ten-year period. On the other hand, using the lagged approach, damages can be computed precisely for the entire period; 2020 damages are based on 2018 water receipts and CVP capital cost allocations for the ten-year period ending with FY 2018.

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54. Given these circumstances, I have computed damages for the FY 2008–2020 period using both approaches. Schedule 1 shows the result using the current-year approach. As the Government maintains that cost allocation data for FY 2020 is not yet available, my current-year calculations hold the proportionality percentage constant from 2019 to 2020. Schedule 3 shows the result using the lagged approach. For the period in question, employing a no-lag approach is conservative because, based upon my calculations, damages are greater using the lagged approach.

B. PROPORTIONAL PERCENTAGES

55. A key input into the damages calculation formula above is the “Power CVP Repayment %.” This percentage reflects power contractors’ collective share of “water and power users’ respective allocations for repayment of the Central Valley Project” on a ten-year rolling average basis. For example, in the current-year proportionality method, power contractors’ M&R responsibility for 2015 is calculated using a proportionality percentage that reflects the ratio of power users’ repayment allocations for the ten-year period 2006 through 2015 to the total of power and water users’ repayment allocations for the same period.

Joint Exhibit 2 and defendant’s response to plaintiffs’ interrogatory 25

56. During the 2018 trial in this case, the parties jointly introduced, and the court admitted into evidence (*see* Jan. 16, 2018 Tr. at 121), a document labeled Joint Exhibit 2. The document is titled “10-Year Rolling Average of CVP Restoration Fund (ALL YEARS) Receipts for Irrigation, M&I, and Commercial Power Central Valley Project,” and includes two tables. The first sets forth the annual CVPIA receipts paid by Irrigation, M&I Water and Commercial Power contractors through FY 2016, the annual totals of those receipts, and the percentages paid by each category during rolling ten-year periods. The second sets forth the ten-year sums of CVP capital costs allocated to those entities during rolling ten-year periods ending with FY 2015, the totals of those amounts for each period, and the percentage borne by Irrigation, M&I Water, and Commercial Power contractors during those periods.

57. Joint Exhibit 2 bears Bates number DEF-PROD-00188930, and was produced by the Government as a native Excel file with the file name “Interrogatory & Production Items 1.zip? Production #5\10year RA ALL YEARS thru FY2016.xlsx.” The ten-year capital cost sums at the bottom of Joint Exhibit 2 agree with annual capital cost allocations provided in

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another document produced by the Government with an adjacent Bates number (DEF-PROD-00188929) titled “Weighted Average and 10-Year Rolling Average of Repayment Obligations for Irrigation, M&I Water, and Commercial Power, Central Valley Project, FY 1993-2015.”

58. At trial, defendant’s witness Gail Trujillo-Bixby agreed that Joint Exhibit 2 represents “the ten-year rolling average assessment of collections and repayment allocation[s]” (*see* Jan. 17, 2018 Tr. at 322:23–323:12.)³¹ And she agreed that “that’s what the restoration fund says in terms of how the repayment allocation should be measured for proportionality if they’re on the ten-year rolling average basis.” Jan. 17, 2018 Tr. at 323:13–17.
59. In discovery after the remand, plaintiffs asked the Government to explain how the dollar amounts and percentages in Joint Exhibit 2 were derived. The Government explained that “[f]or each 10-year period listed in JX2, the capital costs shown is the sum of allocated capital costs over the preceding 10 years for Irrigation, M&I and Commercial Power, respectively,” reflecting the summation of annual amounts “derived from the CVP annual plant-in-service allocation.”³² The Government further explained that the annual plant-in-service allocation “allocates all capital costs across the authorized purposes of the CVP and further sub-allocates water supply and power costs in order to assign costs for repayment by Irrigation, M&I, and Commercial Power.”³³ The Government stated that the percentages in Joint Exhibit 2 represent “the proportion of total reimbursable costs over that 10-year period for Irrigation, M&I and Commercial Power.”³⁴
60. Accordingly, I conclude that Joint Exhibit 2 represents the parties’ acknowledged calculation of water and power users’ respective allocations for repayment of the Central Valley Project on a ten-year rolling average basis through FY 2015 based upon the Bureau’s actual, historical CVP cost allocations for power and water users.
61. In discovery after remand, in response to plaintiffs’ interrogatory 25, the Government produced corresponding data calculated on the same bases for the ten-year periods 2007–2016 through 2010–2019.³⁵

³¹ Defendant’s witness David Mooney testified similarly. Jan. 18, 2018 Tr. at 663:13–24.

³² Def.’s Resp. to Pl.’s Interrog. No. 26.

³³ *Id.*

³⁴ *Id.*

³⁵ *See* Def.’s Resp. to Pl.’s Interrog. No. 25.

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62. I conclude that these documents provide the ten-year rolling average percentages that should be used for calculating damages and most likely would have been used to compute the M&R payments had proportionality been applied during the damages period.

The Bureau's annual CVP cost allocation spreadsheets

63. In our analysis, we also attempted to derive proportionality percentages directly from the annual CVP cost allocation spreadsheets produced by the defendant in discovery.

64. For the years up through 2015 we used a series of Excel workbooks with Bates numbers GOV0004130-GOV0004153. These workbooks are identified as CVPIA Croffset Allocation Percentages (Croffset workbooks), although none carry a metadata file name beyond the Bates numbering system. Each file was prepared to capture a single FY of data beginning with 1995 through 2019. The Government's response to plaintiffs' interrogatory 26 pointed us to worksheet W in those workbooks. The range of data provided covered the necessary periods needed to compute the requisite ten-year averages through 2015.

65. Additionally, in discovery the defendant produced the inputs for the years 2016-2019 in a series of Excel workbooks with Bates numbers beginning with GOV0001074 through GOV0001098. Similar to the Croffset workbooks, each file represented a single FY. The data received covered the FYs beginning 1995 through 2018, and the data for 2019 has not been provided. Each of the workbooks contained an input sheet page with the contents noted as CVP Cost Allocation Study. We located data that was similar on worksheet W of each of the workbooks that was titled Summary of Repayment Obligations, Plant in Service Investment.

66. Based on our review of the workbooks, it appears to us that Joint Exhibit 2 and the data produced in response to interrogatory 25 generally reflect—as they should—the Bureau's total CVP plant-in-service amounts allocated to Irrigation, M&I Water, and Commercial Power each year, as reflected in those workbooks,³⁶ without the post hoc adjustments the Government made in its preliminary damages calculation.

67. We were not able to reconcile Joint Exhibit 2 and the response to interrogatory 25 with the workbooks completely, but the differences are not large enough to produce material differences in our damages calculation. On a current-year proportionality basis, damages

³⁶ The total allocations to Irrigation, M&I Water, and Commercial Power users can be found in worksheet W of the annual cost allocation workbooks. For example, cell L117 in worksheet W of the 2010 workbook (Bates No. GOV0004140) shows a total allocation to Irrigation Water Users of \$1,534,677,644.23.

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calculated using percentages from Joint Exhibit 2 and interrogatory response 25 are **\$81,872,385**,³⁷ while damages produced using percentages based on the annual workbook allocations are **\$82,231,012**.³⁸

C. REJECTION OF RECALCULATED PERCENTAGES BASED ON POST HOC ADJUSTMENTS

68. Any computation of amounts that should have been charged under the CVPIA should be tested for reasonableness and appropriateness of the inputs on which those calculations are based. The Government's initial damage calculation (Bates No. GOV0000002) fails that test because it uses ahistorical proportionality percentages that are calculated based on inappropriate post hoc adjustments to the cost allocation amounts and percentages calculated during the damages period.
69. The Government's initial damages calculation uses ten-year rolling average percentages that differ substantially from the percentages shown in Joint Exhibit 2 and provided in response to interrogatory 25.

³⁷ See Schedule 1.

³⁸ See Schedule 2.

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10-Year Rolling Average of Commercial Power
Comparison of JX2 Percentages to GOV0000002
Central Valley Project

	(A) JX2 Percentages	(B) GOV0000002	(C) Percentage Increase (2)
FY 1999 - 2008	22.388%	28.13%	25.64%
FY 2000 - 2009	22.681%	28.43%	25.33%
FY 2001 - 2010	23.056%	28.87%	25.22%
FY 2002 - 2011	23.661%	29.52%	24.78%
FY 2003 - 2012	24.244%	30.21%	24.60%
FY 2004 - 2013	24.794%	30.82%	24.31%
FY 2005 - 2014	25.402%	31.49%	23.97%
FY 2006 - 2015	26.006%	32.14%	23.58%
FY 2007 - 2016	26.580%	32.72%	23.11%
FY 2008 - 2017	27.130%	33.29%	22.69%
FY 2009 - 2018	27.690%	33.71%	21.73%
FY 2010 - 2019	28.240%	34.12%	20.81%
FY 2011 - 2020	(1) -	-	-

(1) 2020 data currently not provided

(2) Percentage increase computed as $(B) - (A) = (X)$; $(X)/(A)=C$

70. The new percentages overstate the share of CVP capital costs for which power contractors were considered to be responsible during the damages period. Consequently, the new percentages overstate the amount of M&R payments for which power contractors would have been responsible had proportionality been applied during the damages period in accordance with the Bureau's then-applicable cost allocation study.
71. The Government's new proportionality percentages appear to be based on post hoc adjustments to the contemporaneous cost allocations developed during the damages period. The adjustments are discussed in the Government's response to interrogatory 19 and documents cited therein, and are implemented in Excel files (Bates Nos. GOV00000960 and GOV0004130–GOV0004153) used to derive the Government's purported proportionality percentages.

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72. In my view, no post hoc adjustments are appropriate because damages should reflect the charges that plaintiffs would have paid had the Bureau applied proportionality during the damages period based on then-extant data and the cost allocation studies and policies in effect at the time.
73. As explained above, I will comment on specific adjustments in my rebuttal report when I have reviewed the detailed calculations and assumptions underlying those calculations, which the Government has said it will provide during the expert discovery phase.

D. BASE RESOURCE PERCENTAGES

74. Plaintiffs' damages are their share of the excess charges imposed on all CVP power contractors during the damages period. The Bureau computes the annual M&R payment responsibility for all power contractors, and Western, as agent for the Bureau, divides that amount and assesses charges to each CVP power contractor in proportion to that contractor's entitlement share of CVP power (i.e., its Base Resource Percentage). In computing plaintiffs' damages, I relied on Base Resource Percentages provided by NCPA.³⁹ The percentages I used are:

³⁹ Bates No. PL_REMAND_00347.

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Customers	Base Resource % (2004 - 2015)	Base Resource % (2015 - 2024)
Northern California Power Agency (summary)	17.53465%	18.87958%
Alameda Municipal Power (1.08075%, 1.20622%)		
City of Biggs (0.27889%, 0.29542%)		
City of Fallon (0.22100%, 0.27798%)		
City of Gridley (0.62417%, 0.66118%)		
City of Healdsburg (0.18594%, 0.25146%)		
City of Lodi (0.49049%, 0.56931%)		
City of Lompoc (0.25559%, 0.32263%)		
Port of Oakland (OBRA Contract) (0.13280%, 0.14068%)		
Port of Oakland (0.43825%, 0.46423%)		
City of Palo Alto (11.62024%, 12.30917%)		
Plumas-Sierra Rural Electric Cooperative (1.66003%, 1.75845%)		
Truckee Donner Public Utility District (0.22000%, 0.27700%)		
City of Ukiah (0.32650%, 0.34585%)		
City of Redding (summary) (1) (2)	8.49986%	9.00085%
Redding Rancheria (0.03700%, 0.03626%)		
City of Shasta Lake (0.76030%, 0.80537%)		
City of Roseville	4.58170%	4.85333%
City of Santa Clara, dba Silicon Valley Power	9.06592%	9.60341%
Total Base Resource Percentage	39.68213%	42.33717%
Notes:		
Data excerpted from PL_REMAND_00000347 BR spreadsheet.xlsx		
(1) City of Redding (summary) includes Redding's allocation under Western's 2004 marketing plan.		
Pursuant to Stipulation of Agreed-Upon Facts, dated December 29, 2017, at Stipulation 9.		
(2) NCPA Member BR Share.xlsx		

VI. DOCUMENTS, DATA OR OTHER INFORMATION CONSIDERED

75. The list of documents, data or other information I considered in conjunction with this report can be found in Attachment II.

VII. CONCLUSIONS

76. Based on my knowledge, experience and the analysis discussed herein:

- A. Damages in this case are the difference between the M&R payments that plaintiffs actually paid and what they should have paid had proportionality been applied during the damages period. I have quantified plaintiffs' damages for the period of FY 2008 through FY 2020 by comparing the amounts they paid to the amounts they should have paid during the damages period applying proportionality.

NORTHERN CALIFORNIA POWER AGENCY, ET AL.

v.

THE UNITED STATES

B. I find that Joint Exhibit 2 and the defendant's response to interrogatory 25 are the most appropriate and least speculative measures of the proportionality limitation that should have been applied during the damages period.

1. Damages computed using Joint Exhibit 2 and interrogatory response 25 totaled \$81,872,385.
2. Damages computed using the then-contemporaneous annual cost allocations totaled \$82,231,012.

C. Counsel asked me to calculate the damages using the two-year lag method employed by the Government in GOV0000002.

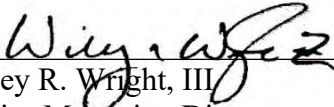
1. Damages computed using Joint Exhibit 2 and interrogatory response 25 totaled \$85,990,156.
2. Damages computed using then contemporaneous annual cost allocations totaled \$85,962,400.

I express no opinion regarding the use of the two-year lag for going-forward purposes, but I find that for damages purposes the current-year calculation is more consistent with the statutory text and historical practice than the two-year lag method.

D. The Government's computation of damages owed totaling \$68,154,911 set forth in the Government's response to interrogatory 17 is significantly understated and reflects the use of erroneous and inappropriate inputs.

E. The Government's retroactive application of the methodology utilized in the 2020 Cost Allocation Study is inappropriate because it was not in effect during the damages period.

77. The opinions expressed herein are based on the information that I have reviewed to date. I reserve the right to supplement this report as additional information is produced by the parties, including but not limited to relevant information obtained through expert discovery.



Wiley R. Wright, III
Senior Managing Director

August 12, 2021
Date

ATTACHMENT I

Resume of Wiley R. Wright, III CPA



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WILEY R. WRIGHT, III CPA

Senior Managing Director
Practice Leader - Construction & Environmental Solutions

EXPERIENCE

Wiley Wright is a Senior Managing Director and BDO's Practice Leader of the Construction & Environmental Solutions Group. Mr. Wright specializes in providing expert witness and forensic accounting services to governmental agencies, private law firms, construction contractors, and government contractors.

Mr. Wright's work includes change order pricing and reviews, contract compliance reviews, preparation and evaluation of requests for equitable adjustment and/or claims for damages, fraud and false claims investigations, assessing the adequacy of accounting systems and indirect cost rate methodologies of governmental agencies, piercing the corporate veil analysis, lost profit damages expert testimony on specific damage and cost accounting issues, accounting system design and review, cost allowability and allocability determinations under federal cost principles, defective pricing reviews, contract termination pricing assistance, Qui Tam matters financial and accounting analysis, and forensic accounting investigations.

Mr. Wright has testified as an expert witness before numerous state and Federal courts, Boards of Contract Appeals, in domestic and international arbitration, and has participated in numerous mediations. Mr. Wright has provided expert testimony in over one hundred fifty matters.

In addition to his litigation and expert witness services, Mr. Wright has over forty years of experience consulting on construction and government contract matters. With respect to construction projects, Mr. Wright has significant experience with: Airports, Oil and Gas Facilities and Pipelines, Bridges and Tunnels, Industrial Facilities, Power Plants, Military and Commercial Launch Facilities, Waste Water Treatment Facilities, Jails and Prisons, Stadiums, Aqueducts, Subway and Transit, and Highways and Roads. Mr. Wright was a Partner with mid-sized public accounting firms in the Washington, DC area prior to BDO and was involved in providing audit, tax, and consulting services to clients in a variety of industries, including a heavy concentration in the government contracts and construction industries. He was responsible for performing and supervising audits, financial statement presentation, internal control reviews, and interaction with regulatory agency auditors.



WILEY R. WRIGHT, III CPA

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Mr. Wright co-authored a chapter entitled "Damages in Construction Arbitrations" included in Global Arbitration Review's 2016 book *The Guide to Damages in International Arbitration*. Mr. Wright also co-authored a chapter entitled "Types of Financial Reports and Opinions Issued by CPAs and Applicable Professional Standards" included in the 2010 book published by the American Bar Association - Forum on the Construction Industry titled *Construction Accounting - A Guide for Attorneys and Other Professionals*. Mr. Wright coauthored an article published in the Maryland Association of Certified Public Accountants' *CPA Statement* entitled "Professional Standards Applicable to Litigation Support."

He has taught courses and given presentations on financial and economic damages before a variety of professional groups, including the Colorado Society of Certified Public Accountants, the American Bar Association and the Virginia Bar Association.

Mr. Wright is a CPA and is a graduate of George Mason University.

LISTING OF EXPERT TESTIMONY

PLAINTIFF	DEFENDANT	FORUM
<i>United States of America</i>	Charles George Trucking Co., et al	United States District Court for the District of Massachusetts
AWM Enterprises, Inc.	<i>Noell, Inc.</i>	Fairfax County, VA, Circuit Court
<i>United States of America</i>	Scott's Liquid Gold	United States District Court, Colorado



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Practice Leader - Construction & Environmental Solutions

PLAINTIFF	DEFENDANT	FORUM
<i>United States of America</i>	Broderick Investment Company, Tom H. Connolly, as Trustee, and Burlington Northern Railroad Company	United States District Court for the District of Colorado
<i>United States of America</i>	Atlantic Richfield Company	Alternative Dispute Resolution
<i>United States of America</i>	Atlantic Richfield Company	United States District Court for the Eastern District of Texas
<i>Aerojet-General Corp</i>	United States Air Force	Armed Services Board of Contract Appeals
<i>United States of America</i>	Salvors, Inc., <i>et al</i>	United States District Court, Florida
<i>Noell, Inc.</i>	Los Angeles Department of Water and Power	Superior Court of California
W.R. Mollohan, Inc., <u>et al</u>	Fru-Con Construction Corp. <i>et al</i>	United States District Court, West Virginia
<i>United States of America</i>	Findett Corporation	United States District Court, Missouri
<i>United States of America</i>	DICO, Inc.	United States District Court, Missouri
Golden Bay Fence Co.	<i>Ray Wilson Co</i>	Superior Court of California, American Arbitration Association
Joe Amaral Mechanical	<i>Clark Construction</i>	United States District Court, Northern District of California
<i>Dillingham Construction</i>	County of Los Angeles	Superior Court of California
<i>United States of America</i>	ASARCO, Inc.	United States District Court, Idaho



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PLAINTIFF	DEFENDANT	FORUM
<i>United States of America</i>	Montrose Chemical Co.	United States District Court, California
<i>United States of America and the State of Colorado</i>	Robert M. Friedland, et al.	United States District Court, District of Colorado
<i>United States of America</i>	Chrysler Corporation, Ford Motor Company, et al.	United States District Court, Northern District of Ohio
E.I. Dupont	<i>United States of America</i>	United States District Court, New Jersey
<i>United States of America</i>	Tug ALLIE B, et al.	United States District Court, Southern District of Florida
<i>United States of America</i>	Sprague Energy, et al.	United States District Court, North Carolina
Kiewit Construction	<i>United States of America</i>	United States Court of Federal Claims
<i>United States of America</i>	Gurley Refining Co.	United States District Court, Arkansas
<i>United States of America</i>	W.R. Grace, et al	United States District Court, Montana
Miami Dade County	<i>United States of America</i>	United States District Court, Florida
Information Systems & Networks Corporation	<i>United States of America</i>	United States Federal Court of Claims
U.S.F.G.	<i>Dick Barton Malow, et al.</i>	United States District Court, District of Columbia
Carol AuClair	<i>Anteon Corporation</i>	Fairfax County, Virginia Circuit Court
<i>United States of America</i>	Mallinckrodt Inc., et al	United States District Court, District of Missouri
<i>United States of America</i>	ASARCO, Inc	United States District Court, Idaho



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PLAINTIFF	DEFENDANT	FORUM
Morrison Knudson International, Inc./ Contrak International, Inc. J.V.	<i>National Organization for Potable Water and Sanitary Drainage</i>	International Commercial Arbitration
Hewlett Packard	Telecom Egypt	International Commercial Arbitration
Lighthouse Electric, Inc.	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
Kirby Electric, Inc.	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
W.G. Tomko, Inc.	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
C&M Contracting, Inc.	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
Oldcastle Precast, Inc.	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
Macgregor Industries	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
<i>United States of America</i>	Jay James Jackson, et al.	United States District Court, District of Nebraska
<i>Jackson 2000 LLC, et al.</i>	American Geotech, Inc., et al.	United States District Court, Southern District of Ohio - Eastern Division
<i>United States of America</i>	RSR Corporation, et al.	United States District Court, Washington
<i>United States of America</i>	Dominick Manzo, et al.	United States District Court for the District of New Jersey
<i>East Coast Glass Systems</i>	Pohl, Inc.	United States District Court, Eastern District of Virginia
Gates of McLean Condominium	<i>Gates of McLean Development, LLC</i>	Circuit Court of Fairfax County



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PLAINTIFF	DEFENDANT	FORUM
Basic Management, Inc.	<i>United States of America</i>	United States District Court, District of Nevada
<i>United States of America</i>	Newmont USA Limited and Dawn Mining Company, LLC	United States District Court, Eastern District of Washington
Clairton Slag, Inc.	<i>Commonwealth of Pennsylvania, Department of General Services</i>	Board of Claims, Commonwealth of Pennsylvania
Lumbermens Mutual Casualty	<i>United States of America</i>	United States of Court of Federal Claims
<i>Sierra Club, et al., and United States of America</i>	MasTec North America	United States District Court District of Oregon
Raytheon Aircraft Company	<i>United States of America</i>	United States District Court, District of Kansas at Kansas City
PEC	<i>Commonwealth of Pennsylvania, Department of General Services</i>	Board of Claims, Commonwealth of Pennsylvania
<i>Eisenhower Residential, L.P., et al.</i>	Hoffman Family, L.L.C., et al.	Circuit Court for the City of Alexandria, Virginia
<i>Maryland Economic Development Corporation</i>	Place/Structures, LLC et al.	Circuit Court for Prince Georges County, Maryland
Travelers Casualty and Surety Company, as Administrator for Reliance Insurance Company	<i>Dormitory Authority - State of New York, TDX Construction, Corp. and Kohn Pederson Fox Associates, P.C.</i>	United States District Court Southern District of New York
L.K. Comstock & Company, Inc.	<i>Thales Transport & Security Inc.</i>	United States District Court Eastern District of New York
<i>The Mayor and Council of Rockville, Maryland</i>	Macris, Hendricks & Glascock, P.A.	Circuit Court for Montgomery County, Maryland
Data Computer Corporation of America	<i>United States of America</i>	United States Court of Federal Claims



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PLAINTIFF	DEFENDANT	FORUM
<i>United States of America</i>	Sunoco, Inc.	US District Court Eastern District of Pennsylvania
TDY Holdings, LLC and TDY Industries, Inc.	<i>United States of America, United States Department of Defense and Robert M. Gates in his official capacity as Secretary of Defense</i>	United States District Court Southern District of California
<i>RSC Tower I, LLC, et al</i>	Camalier Limited Partnership	Circuit Court for Circuit Court for Montgomery County, Maryland
SM Electric	<i>Stone & Webster Constructing, Inc.</i>	American Arbitration Association
<i>Environment International Ltd.</i>	Chemonics International	Arbitration
<i>Evansville Greenway and Remediation Trust</i>	Southern Indiana Gas and Electric Company, Inc. et al., and General Waste Products et al.	United States District Court Southern District of Indiana Evansville Division
<i>United States of America</i>	General Electric Company	United States District Court for the District of New Hampshire
<i>American Bridge Co./Edward Kraemer & Sons, Inc. Joint Venture</i>	PDM Bridge, LLC	American Arbitration Association
<i>Samuel Ecker</i>	Chugach McKinley, Inc., Lorton Contracting Co.Inc. and Samuel Hernandez	Circuit Court for Montgomery County, Maryland
<i>United States of America</i>	Washington State Department of Transportation	United States District Court, Western District of Washington
<i>New York University Hospitals Center</i>	HRH Construction LLC	U.S. Bankruptcy Court, Southern District of New York Adv. Pro. No. 10-0824 (SHL)



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PLAINTIFF	DEFENDANT	FORUM
Nu-West Mining, Inc. and Nu-West Industries, Inc.	<i>United States of America</i>	United States District Court District of Idaho
<i>United States of America and California Department of Toxic Substances Control</i>	Sterling Centrecorp, Inc. Stephen P. Elder, and Elder Development, Inc.	United States District Court Eastern District of California
RD Rockville, LLC RD Rockville Garage, LLC	<i>The Mayor and Council of Rockville</i>	Circuit Court for Montgomery County, Maryland
Horn & Associates, Inc	<i>United States of America</i>	United States Court of Federal Claims
<i>United States of America</i>	Federal Resources Corporation; Blum Real Estate Trust; and Bentley J. Blum in his capacity as Trustee of the Blum Real Estate Trust	United States District Court of Idaho
LCM Energy Solutions	<i>United States of America</i>	United States Court of Federal Claims Case No. 1:12-CV-321-TCW
Lockheed Martin Corp.	<i>United States of America</i>	United States District Court for the District of Columbia Case No. 1:08-CV-01160- ESH
HCLUB Investors	<i>Parc Vendome Condominiums</i>	JAMS Arbitration
<i>American Bridge Company</i>	Commonwealth of Virginia - Virginia Department of Transportation	In The Circuit Court For The County of Accomack, Virginia No. 13CL341
<i>United States of America</i>	Emhart Industries, Inc., et al.	United States District Court for the District of Rhode Island Case No. 11-023S



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PLAINTIFF	DEFENDANT	FORUM
<i>South Carolina Electric & Gas Company</i>	Consortium of Westinghouse Electric Company LLC and Stone & Webster, Inc.	V.C. Summer Dispute Review Board Dispute No. 001-2016
<i>United States of America and the State of Wisconsin</i>	NCR Corporation, et al.	United States District Court for the Eastern District of Wisconsin Green Bay Division
Montgomery County, Maryland et al.	<i>Parsons Brinckerhoff</i> , et al.	Circuit Court for Montgomery County, Maryland
State of Alaska and City of North Pole (Consolidated Plaintiffs)	Williams Alaska Petroleum, Inc., The Williams Companies, Inc., <i>Flint Hills Resources Alaska, LLC</i> , and <i>Flint Hills Resources, LLC</i> .	Superior Court for the State of Alaska, Fourth Judicial District at Fairbanks
Maintenance Enterprises, LLC	<i>Orascom E&C USA Inc.</i>	International Chamber of Commerce – International Court of Arbitration
PPG Industries, Inc.	<i>United States of America</i> , et al.	United States District Court for the District of New Jersey
<i>United States of America</i>	CMS Energy Corporation, et al.	United States District Court for the Western District of Michigan
Maintenance Enterprises, LLC	<i>Orascom E&C USA, Inc.</i> and Iowa Fertilizer Company, LLC	United States District Court for the Southern District of Iowa Davenport Division
City of Lincoln	<i>United States of America</i> , <i>United States Department of the Air Force</i> , <i>United States General Services Administration</i> , and <i>Does 1 through 100</i>	United States District Court for the Eastern District of California



WILEY R. WRIGHT, III CPA

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PLAINTIFF	DEFENDANT	FORUM
<i>SNC-Lavalin Inc.</i>	Saskatchewan Power Corporation	Arbitration (Canada)
<i>Manolis Painting, Inc.</i>	Maryland State Highway Administration	Maryland State Board of Contract Appeals
Mid-Atlantic Arena, LLC	<i>City of Virginia Beach</i>	Circuit Court of the City of Virginia Beach
<i>O'Connor Corporation</i>	Iberdrola Energy Projects, Inc.	American Arbitration Association - International Centre for Dispute Resolution
<i>United States of America</i>	Dayton Industrial Drum, Inc. and Sunoco, Inc.	United States District Court for the Southern District of Ohio Western Division
ECC International, LLC	<i>U.S. Army Corps of Engineers</i>	Armed Services Board of Contract Appeals
<i>United States of America</i>	Land O'Lakes, Inc. and Cushing Oklahoma Brownfields, LLC	United States District Court for the Western District of Oklahoma
<i>Yuanda Canada Enterprises LTD.</i>	Walsh Construction/Bondfield Partnership, Walsh Construction Company Canada, Bondfield Construction Company Limited and Women's College Hospital	Ontario Superior Court of Justice
<i>United States of America and State of California</i>	Montrose Chemical Corp. of California, et al.	United States District Court Central District of California, Western Division
Philips Lighting North America Corporation	<i>Washington Metropolitan Area Transit Authority</i>	Armed Services Board of Contract Appeals
<i>United States of America</i>	United Park City Mines Company	United States District Court for the District of Utah Central Division

Italics indicate client in the matter



WILEY R. WRIGHT, III CPA

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PLAINTIFF	DEFENDANT	FORUM
Costello Construction of Maryland, Inc.	<i>BoPat Electric Co., Inc.</i>	Circuit Court for Howard County, Maryland
<i>ACC Construction - McKnight Joint Venture, Inc.</i>	United States Department of State	United States Civilian Board of Contract Appeals
Philips Lighting North America Corporation	<i>Washington Metropolitan Area Transit Authority</i>	Armed Services Board of Contract Appeals
TC Rich, LLC, Rifle Freight, Inc., Fleischer Customs Brokers, Richard G. Fleischer, and Jacqueline Fleischer	<i>Hussain M. Shaikh, Haroon Khan, and Shah Chemical Corporation</i>	United States District Court Central District of California
<i>K&K Adams, Inc.</i>	Maryland Stadium Authority	Circuit Court for Baltimore City, Maryland
Friends of Riverside Airport, LLC	Department of the Army, <i>Rohr, Inc.</i> , Anza Realty Company, Lear Siegler, Inc., <i>City of Riverside</i> , et al	United States District Court Central District of California, Western Division
Refinería de Cartagena S.A.	<i>Chicago Bridge & Iron Company N.V., CB&I UK Limited and CBI Colombiana S.A.</i>	International Court of Arbitration, International Chamber of Commerce

Italics indicate client in the matter

PROFESSIONAL AFFILIATIONS

- ▶ American Bar Association
- ▶ American Institute of Certified Public Accountants (AICPA)
- ▶ Association of Certified Fraud Examiners
- ▶ Construction Management Association of America
- ▶ National Contract Management Association
- ▶ National Association of Forensic Economics
- ▶ Society of Construction Law - North America, Board Member
- ▶ Virginia Society of Certified Public Accountants

EDUCATION

B.S., Business Administration, George Mason University

ATTACHMENT II

Documents, Data or Other Information Considered

DOCUMENTS, DATA OR OTHER INFORMATION CONSIDERED

Docket Filings:

1. 2015.01.20 Defendant's Motion to Dismiss & Appendix
2. 2015.04.01 Plaintiffs' Opposition to Defendant's Motion to Dismiss
3. 2015.05.08 Defendant's Reply to Plaintiffs' Opposition to Defendant's Motion to Dismiss
4. 2016.09.27 Amended Complaint
5. 2016.10.14 Defendant's Answer to Amended Complaint
6. 2017.12.05 Defendant's Motion in Limine to Exclude Testimony
7. 2017.12.13 Plaintiffs' Response to Defendant's Motion in Limine to Exclude Witness Testimony
8. 2017.12.20 Order Denying Motion in Limine
9. 2017.12.29 Stipulation of Agreed-Upon Facts
10. 2018.04.02 Defendant's Post-Trial Brief
11. 2018.04.02 Plaintiff's Proposed Findings of Fact and Conclusions of Law
12. 2018.05.04 Defendant's Response Brief
13. 2018.05.04 Plaintiffs' Response Brief
14. 2019.03.29 Corrected Brief of Defendant
15. 2015.06.29 Order on Defendant's Motion to Dismiss
16. 2018.07.30 United States Court of Federal Claims Opinion
17. 2018.07.31 United States Court of Federal Claims Judgment
18. 2019.11.06 United States Court of Appeals for the Federal Circuit, Opinion
19. 2020.05.07 Joint Preliminary Status Report filed by Plaintiffs
20. 2018.01.05 Defendant's Amended Exhibit List
21. 2019.04.25 Federal Circuit Appendix
22. 2018.12.17 NCPA Initial Brief
23. 2019.03.29 Government Brief
24. 2019.04.18 NCPA Reply Brief

Court of Federal Claims Trial Exhibits:

1. Defendant's Exhibits (Labeled DX01-DX27)
2. 2017.10.30 Joint Trial Exhibits List
3. Joint Exhibits (Labeled JTX001-JTX049)
4. 2017.10.31 Corrected Plaintiffs' Trial Exhibit List
5. Plaintiffs' Exhibits (Labeled PTX 001- PTX479)

Transcripts and Related Materials:

1. 2015.07.02 Telephonic Status Conference
2. 2018.01.03 Pretrial Conference (Telephonic) Transcript
3. 2018.01.16 Trial Volume 1 (1-246)
4. 2018.01.17 Trial Volume 2 (247-499)
5. 2018.01.18 Trial Volume 3 (500 – 736)
6. 2018.01.19 Trial Volume 4 (737 – 977)
7. 2018.01.22 Trial Volume 5 (978-1218)
8. 2018.01.23 Trial Volume 6 (1219-1457)
9. 2018.01.24 Trial Volume 7 (1458-1734)

10. 2018.01.25 Trial Volume 8 (1735-1878)
11. 2018.06.01 Trial Volume 9 Closing Arguments (1879-1952)
12. 2018.05.08 Cumulative Index

Bates-Numbered Documents:

1. DEF-PROD00127021 to DEF-PROD00127073
2. DEF-PROD00188929
3. DEF-PROD00188930
4. PL_REMAND_00000345 to PL_REMAND_00000347
5. GOV000001 to GOV0001023
6. GOV001029 to GOV0003695
7. GOV003697 to GOV0005811

Other Discovery Documents:

1. Defendant's Second Set of Interrogatories and Second Set of Requests for Production of Documents
2. Plaintiffs' Responses to Defendant's Second Set of Interrogatories
3. Plaintiffs' Responses to Defendant's Second Set of Document Requests
4. Plaintiffs' Third Set of Interrogatories
5. Plaintiffs' Fourth Set of Interrogatories
6. Plaintiffs' Fifth Set of Interrogatories
7. Defendant's Second Supplemental Response to Plaintiffs' First Set of Interrogatories to the Defendant
8. Defendant's Responses to Plaintiffs' Second Set of Interrogatories
9. Defendant's Responses to Plaintiffs' Third Set of Interrogatories
10. Defendant's Responses to Plaintiffs' Fourth Set of Interrogatories
11. Defendant's Responses to Plaintiffs' Fifth Set of Interrogatories
12. Plaintiffs' Third Set of Requests for Production of Documents, Electronically Stored Information, and Tangible Things
13. Plaintiffs' Fourth Set of Requests for Production of Documents, Electronically Stored Information, and Tangible Things
14. Plaintiffs' Fifth Set of Requests for Production of Documents, Electronically Stored Information, and Tangible Things
15. Plaintiffs' Sixth Set of Requests for Production of Documents, Electronically Stored Information, and Tangible Things
16. Government's Responses to Plaintiffs' Fourth Set of Requests for the Production of Documents
17. Government's Responses to Plaintiffs' Fifth Set of Requests for the Production of Documents
18. Government's Responses to Plaintiffs' Sixth Set of Requests for the Production of Documents
19. Government's Amended Responses to Plaintiffs' Third Set of Requests for Production of Documents

Other Items:

1. 2019.11.21 CVPIA Business Practice Guidelines
2. 2019.11.21 CVPIA Handout Final
3. 2019.08.16 CVPIA Reclamation Meeting Croffsets
4. 2019.11.21 CVPIA - True-Up_Nov_Stakeholder-Mtg_FINAL
5. 2017.09.14 CVPIA Croffsets Workshop Final

6. 2021.04.21 NCPA Power Overpayment 2008 – 2020 with No Lag (Final with Friant)
7. 2021.04.21 NCPA Power Overpayment 2008 – 2020 with 2 Year Lag (Final with Friant)
8. 2021.04.21 NCPA Power Overpayment 2008 – 2015 with No Lag (with Friant)
9. 2021.04.21 NCPA Power Overpayment 2008 – 2015 no Lag (No Friant)
10. 2021.04.21 NCPA Power Overpayment 2008 – 2017 with 2 Year Lag (with Friant)
11. 2021.04.21 NCPA Power Overpayment 2008 - 2017 with 2 Year Lag (No Friant)
12. 2021.04.21 NCPA Power Overpayment 2008 – 2017 with No Lag (with Friant)
13. 2021.04.21 NCPA Power Overpayment 2008 - 2017 with No Lag (No Friant)
14. 2021.04.21 NCPA Power Overpayment 2008 – 2015 with No Lag (with Friant), as updated
15. 2021.04.21 NCPA Power Overpayment 2008 – 2017 with 2 Year Lag (with Friant), as updated
16. 2021.04.21 NCPA Power Overpayment 2008 – 2017 with 2 Year Lag (with Friant), as updated
17. 2021.04.21 NCPA Power Overpayment 2008 – 2015 with No Lag (with Friant), as updated
18. GAO Report to the Ranking Minority Member, Committee on Resources, House of Representatives, “Information on Allocation and Repayment of Costs of Constructing Water Projects,” GAO/RCED-96-109, July 1996.
19. GAO Testimony Before the Subcommittee on Water and Power Resources, Committee on Resources, House of Representatives, “Reclamation Law and the Allocation of Construction Costs for Federal Water Projects,” GAO/T-RCED-97-150, May 1997.
20. Toni Rae Linenberger for the Bureau of Reclamation, Pacific Northwest-Pacific Southwest Intertie, 1997, Reformatted, re-edited, and re-printed by Andrew H. Gahan in 2013.
21. Reclamation Policy Manual, Water-Related Contracts and Charges – General Principles and Requirements, PEC P05.
22. Central Valley Project Improvement Act, Pub. L. No. 102-575, 106 Stat. 4727-28 (1992)
23. State of WAPA’s Assets, Winter 2021
24. 2020.12.04 Fiscal Year 2020 Actuals – Restoration Fund Letter
25. Ratebooks Irrigation 2003-1998
26. Ratebooks M&I 2003-1998
27. Interior Letter for Future Power Payments
28. NCPA FY2020 Audited Financial Statement
29. Discussions with Mr. Jerry Toenyas, Consultant to NCPA
30. Discussions with Ms. Lena Perkins, Senior Resources Planner & Manager, Program for Emerging Technologies, City of Palo Alto
31. NCPA_FY2020_Audited_Financial_Statement
32. Government-Produced Spreadsheet with filename: CVPIA Croffset Alloc Scenarios_Fy18_updated_revised_R
33. 2021.06.21 Damages to NCPA – 2 year lag
34. 2021.06.21 Damages to 2008 – 2020 with No Lag
35. CVPIA Collections 2008-2020 document
36. Copy of NCPA member BR Share
37. Federal Defendants’ Motion to Dismiss, Case No. 3:20-cv-05630 (D. N. Cal. 2020).

ATTACHMENT III

Schedules

Schedule 1														
CVPIA Restoration Fund Commercial Power Damages Assessment - No Lag														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	42,050,295	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.924%	11,620,566				
2007	42,885,000	37,337,486	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.089%	9,842,320				
2008	43,938,000	27,378,379	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	22.388%	7,475,602	19,535,485	7,752,091	-	7,752,091
2009	45,306,000	25,447,505	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.681%	7,298,593	27,237,496	10,808,410	-	10,808,410
2010	45,567,000	37,328,175	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.056%	11,172,980	(491,386)	(194,992)	-	(194,992)
2011	46,467,000	40,504,786	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.661%	11,851,239	9,109,214	3,614,727	-	3,614,727
2012	46,953,000	44,263,353	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.244%	12,365,287	8,497,346	3,371,925	-	3,371,925
2013	48,963,000	30,445,382	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.794%	8,661,429	8,742,845	3,469,345	-	3,469,345
2014	49,956,000	14,589,574	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.402%	4,070,746	30,249,907	12,003,798	-	12,003,798
2015	50,361,000	9,753,177	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	26.006%	2,706,726	37,682,971	-	15,953,915	15,953,915
2016	51,024,000	23,409,573	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.580%	7,094,454	33,860,444	-	14,335,564	14,335,564
2017	51,135,000	40,121,530	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	27.130%	12,536,321	13,510,676	-	5,720,042	5,720,042
2018	52,359,000	52,765,216	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.690%	17,133,900	(7,236,942)	-	(3,063,918)	(3,063,918)
2019	53,151,000	53,666,371	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	28.240%	17,692,357	13,086,384	-	5,540,409	5,540,409
2020	54,548,000	39,581,290	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	28.240%	12,949,129	6,049,219	-	2,561,070	2,561,070
Total	\$ 723,827,000	\$ 518,642,091	\$ 351,697,526	\$ 364,170,443	\$ 98,688,743	\$ 715,867,970	\$ 814,556,713			\$ 154,471,648	\$ 199,833,660	\$ 40,825,305	\$ 41,047,081	\$ 81,872,385

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
- (3) Power's 10-Year Rolling Average Capital CVP Percentages (JTX2/Interrogatory 25)
- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
- (5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.
Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002.
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

Schedule 2														
CVPIA Restoration Fund Commercial Power Damages Assessment - No Lag, as Recomputed														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	41,909,000	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.715%	11,479,271				
2007	42,885,000	37,316,164	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.052%	9,820,998				
2008	43,938,000	28,054,366	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	23.928%	8,151,589	18,859,498	7,483,845	-	7,483,845
2009	45,306,000	25,432,246	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.644%	7,283,335	27,252,754	10,814,465	-	10,814,465
2010	45,567,000	37,305,703	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.020%	11,150,508	(468,914)	(186,075)	-	(186,075)
2011	46,467,000	40,459,134	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.591%	11,805,586	9,154,866	3,632,843	-	3,632,843
2012	46,953,000	44,215,113	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.172%	12,317,046	8,545,587	3,391,068	-	3,391,068
2013	48,963,000	30,442,083	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.787%	8,658,130	8,746,144	3,470,653	-	3,470,653
2014	49,956,000	14,585,355	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.382%	4,066,527	30,254,126	12,005,472	-	12,005,472
2015	50,361,000	9,745,738	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	25.953%	2,699,287	37,690,410	-	15,957,064	15,957,064
2016	51,024,000	23,352,339	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.422%	7,037,220	33,917,678	-	14,359,795	14,359,795
2017	51,135,000	40,026,521	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	26.980%	12,441,312	13,605,685	-	5,760,266	5,760,266
2018	52,359,000	52,640,169	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.544%	17,008,853	(7,111,895)	-	(3,010,977)	(3,010,977)
2019	53,151,000	53,051,139	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	27.528%	17,077,124	13,701,617	-	5,800,881	5,800,881
2020	54,548,000	39,130,998	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	27.528%	12,498,837	6,499,511	-	2,751,711	2,751,711
Total	\$ 723,827,000	\$ 517,666,067	\$ 351,697,526	\$ 364,170,443	\$ 98,688,743	\$ 715,867,970	\$ 814,556,713			\$ 153,495,624	\$ 200,647,066	\$ 40,612,272	\$ 41,618,740	\$ 82,231,012

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
- (3) Power's 10-Year Rolling Average Capital CVP Percentages
- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
- (5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.
Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002.
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

Schedule 3														
CVPIA Restoration Fund Commercial Power Damages Assessment- 2 Year Lag														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	39,809,669	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.924%	9,379,939				
2007	42,885,000	38,250,246	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.089%	10,755,080				
2008	43,938,000	31,523,343	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	22.388%	11,620,566	15,390,521	6,107,282	-	6,107,282
2009	45,306,000	27,991,232	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.681%	9,842,321	24,693,768	9,799,006	-	9,799,006
2010	45,567,000	33,630,797	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.056%	7,475,602	3,205,992	1,272,205	-	1,272,205
2011	46,467,000	35,952,141	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.661%	7,298,593	13,661,859	5,421,312	-	5,421,312
2012	46,953,000	43,071,046	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.244%	11,172,980	9,689,653	3,845,058	-	3,845,058
2013	48,963,000	33,635,192	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.794%	11,851,239	5,553,035	2,203,561	-	2,203,561
2014	49,956,000	22,884,115	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.402%	12,365,287	21,955,366	8,712,350	-	8,712,350
2015	50,361,000	15,707,880	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	26.006%	8,661,429	31,728,268	-	13,432,860	13,432,860
2016	51,024,000	20,385,865	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.580%	4,070,746	36,884,152	-	15,615,717	15,615,717
2017	51,135,000	30,291,935	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	27.130%	2,706,726	23,340,271	-	9,881,617	9,881,617
2018	52,359,000	42,725,770	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.690%	7,094,454	2,802,504	-	1,186,502	1,186,502
2019	53,151,000	48,510,335	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	28.240%	12,536,321	18,242,420	-	7,723,330	7,723,330
2020	54,548,000	43,766,061	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	28.240%	17,133,900	1,864,448	-	789,355	789,355
Total	\$ 723,827,000	\$ 508,135,626	\$ 351,697,526	\$ 364,170,444	\$ 98,688,744	\$ 715,867,970	\$ 814,556,713			\$ 143,965,182	\$ 209,012,258	\$ 37,360,775	\$ 48,629,382	\$ 85,990,156

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
- (3) Power's 10-Year Rolling Average Capital CVP Percentages (JTX2/Interrogatory 25)
- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
- (5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.

Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002.
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

Schedule 4														
CVPIA Restoration Fund Commercial Power Damages Assessment- 2 Year Lag, as Recomputed														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	39,809,669	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.715%	9,379,939				
2007	42,885,000	38,250,246	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.052%	10,755,080				
2008	43,938,000	31,382,047	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	23.928%	11,479,271	15,531,817	6,163,351	-	6,163,351
2009	45,306,000	27,969,909	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.644%	9,820,998	24,715,091	9,807,467	-	9,807,467
2010	45,567,000	34,306,784	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.020%	8,151,589	2,530,005	1,003,959	-	1,003,959
2011	46,467,000	35,936,883	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.591%	7,283,335	13,677,117	5,427,367	-	5,427,367
2012	46,953,000	43,048,574	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.172%	11,150,508	9,712,125	3,853,975	-	3,853,975
2013	48,963,000	33,589,539	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.787%	11,805,586	5,598,688	2,221,677	-	2,221,677
2014	49,956,000	22,835,874	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.382%	12,317,046	22,003,607	8,731,493	-	8,731,493
2015	50,361,000	15,704,581	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	25.953%	8,658,130	31,731,567	-	13,434,257	13,434,257
2016	51,024,000	20,381,646	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.422%	4,066,527	36,888,371	-	15,617,503	15,617,503
2017	51,135,000	30,284,496	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	26.980%	2,699,287	23,347,710	-	9,884,767	9,884,767
2018	52,359,000	42,668,536	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.544%	7,037,220	2,859,738	-	1,210,733	1,210,733
2019	53,151,000	48,415,326	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	27.528%	12,441,312	18,337,429	-	7,763,554	7,763,554
2020	54,548,000	43,641,014	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	27.528%	17,008,853	1,989,495	-	842,297	842,297
Total	\$ 723,827,000	\$ 508,225,125	\$ 351,697,526	\$ 364,170,444	\$ 98,688,744	\$ 715,867,970	\$ 814,556,713			\$ 144,054,682	\$ 208,922,759	\$ 37,209,290	\$ 48,753,110	\$ 85,962,400

(1) Actual 3407(d) Restoration Fund Collections from Water and Power

(2) Actual Power M&R as a Percent of Total Power & Water M&R

(3) Power's 10-Year Rolling Average Capital CVP Percentages

(4) Power M&R Obligation Proportional to (Water M&R + Other Water)

(5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.

Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.

(6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002

(7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).

(8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER AGENCY, ET AL.,

Plaintiffs,

v.

THE UNITED STATES,

Defendant.

Case No. 14-817C

Rebuttal Expert Report of
Wiley R. Wright, III CPA
September 13, 2021

NORTHERN CALIFORNIA POWER AGENCY, ET AL.
v.
THE UNITED STATES

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Attachment

Attachment I: Documents, Data or Other Information Considered

I. INTRODUCTION AND SCOPE OF WORK

1. My name is Wiley R. Wright, III. I have been retained by the plaintiffs in this case—Northern California Power Agency (NCPA) and the Cities of Redding, Roseville, and Santa Clara, California—to provide my opinions concerning the methodology, conclusions and damages calculations presented in the Expert Disclosures (disclosures) of Bureau of Reclamation, Department of the Interior employees Mr. Spencer Walden, Mr. Steve Pavich and Dr. William Taylor, as disclosed by the Defendant. To the extent that I do not address certain parts of the Government’s experts’ disclosures in this report, it does not mean that I agree they are correct.
2. For my analysis and testimony, I will be compensated at my usual hourly rate of \$350.
3. The Cities of Redding, Roseville, and Santa Clara are members of NCPA, and in this report I refer to the plaintiffs collectively as NCPA.
4. I issued an affirmative report in this matter on August 12, 2021 that set forth my opinions regarding the methods and data used to compute damages in this case, presented my calculation of damages and included a discussion of the Central Valley Project (CVP), the Central Valley Project Improvement Act (CVPIA), and the issues in the current litigation (affirmative report). In the affirmative report, I calculated damages using proportionality percentages set forth in a joint trial exhibit already in evidence and corresponding percentages produced in discovery for later years. As a check, I also calculated damages using proportionality percentages I derived directly from annual cost allocation spreadsheets that the Bureau prepared during the damages period. On September 10, 2021, I issued a supplemental report to fix minor formula errors in the latter set of calculations. As explained in the supplemental report, the errors did not affect my primary calculations using the joint trial exhibit; nor, aside from the impact of my fixing the formula errors on the alternative damages calculations described above, did they affect any of the conclusions stated in my August 12 affirmative report.

II. EXPERT QUALIFICATIONS AND PREVIOUS TESTIMONY

5. My qualifications and experience, including a copy of my resume, were addressed and included in my affirmative report.

6. I am responsible for the services performed and the opinions given herein and have personally rendered or reviewed the analysis performed by the members of our staff with respect to them. Use of the words “I”, “my”, “we”, and “our” throughout this report means myself and the BDO professionals working under my direction and supervision.
7. All work performed by BDO was completed in accordance with the American Institute of Certified Public Accountants (AICPA) Statement on Standards for Forensic Services.¹ These standards require, in part, that the practitioner obtain sufficient relevant data to afford a reasonable basis for conclusions or recommendations in relation to any professional services provided. I have done so for the work performed and opinions expressed herein.
8. The documents, data and information that I considered in performing my analysis are the types of documents, data and information that experts in my field typically consider and rely upon in performing similar damages engagements.

III. SUMMARY OF OPINIONS

9. Based on my review and analysis of the Government’s expert disclosures I find no basis to modify my damages calculations.
10. The Government’s expert disclosures do not address or identify the complete basis for the opinions expressed in the disclosures. My rebuttal opinions are of necessity limited to the information described in the disclosures. Should the Government and its experts provide the requisite information for the opinions expressed I will, if necessary, update my rebuttal opinions.
11. Both the Plaintiffs and the Defendant agree that the damages in this case should be calculated as the difference between what the Defendants have paid (amounts billed by the Government) and what the Defendants should have been charged, applying proportionality. The calculation of what the Defendants should have been charged should be done using the cost allocations, methods, and data in place at the time the charges were levied during the damages period.² During the 2018 trial, the parties jointly submitted an exhibit—Joint Exhibit 2—documenting the CVP water and power users’ respective allocations for CVP repayment over rolling ten-year periods through fiscal year 2015 and calculating the percentages that would have been used to calculate proportional Mitigation and Restoration

¹ Statement on Standards for Forensic Services (SSFS) No. 1 (FS sec. 100).

² The damages period is FY2008 through FY2020.

(M&R) charges. As I explained in my affirmative report, Joint Exhibit 2 and corresponding data provided in discovery for later years, represent the historical CVP cost allocations during the damages period. Those are the data that should be used in calculating damages.

12. The Government's damages calculations are inconsistent with the approach used during the damages period. As explained in the expert disclosures, the calculations reflect post hoc changes that depart significantly from the historical cost allocations, methods, and data that the Government would have used to calculate charges had it applied proportionality during the damages period. The Government's damages calculation is based on adjustments that are speculative and counterfactual, and the Government has provided no justification for why its calculations constitute a proper measure of Plaintiffs' damages.
13. Adjustments that have not been explained adequately or justified should be rejected. In discovery, the Government listed 12 cost categories that it treated differently in deriving proportionality percentages for its damages calculations compared to how it historically treated those costs in its annual CVP cost allocations and Joint Exhibit 2.³ For most of those categories the Government has not described the costs at issue or explained the purported reason for the changed treatment.
14. In at least some cases, the different treatment appears to reflect a retroactive application of certain new methodologies that the Bureau adopted in the CVP Final Cost Allocation Study (CAS), which it issued in 2020 (after the charges at issue in this case had been calculated and assessed) and stated that it would apply prospectively beginning with fiscal year 2021.⁴ The Government's expert disclosures do not identify the basis for applying these changes to a calculation involving damages for a prior period. This retroactive application should be rejected not only because it is counterfactual and unsupported but, also, because it is being done in an unprincipled and inconsistent fashion. The Government seems to be applying certain concepts from the 2020 study retroactively to reduce plaintiffs' damages in this case, but has not proposed to apply the study retroactively to re-state the plaintiffs' underlying

³ See Defendant's response to plaintiffs' interrogatory no. 27.

⁴ See Bureau of Reclamation, Central Valley Project Final Cost Allocation Study 103-04 (2020), <https://www.usbr.gov/mp/cvp/docs/cvp-final-cost-allocation-study-2020.pdf> (2020 CAS) (discussing going forward implementation of the 2020 CAS). See also Defendant's response to plaintiffs' interrogatory nos. 21 and 23; U.S. Bureau of Reclamation, News Release Archive, Reclamation ends decades of financial uncertainty for water and power users of the Central Valley Project (Jan. 14, 2020), <https://www.usbr.gov/newsroom/newsroomold/newsrelease/detail.cfm?RecordID=69163> ("The Cost Allocation Study will be reflected in rates for 2021 . . .") (last accessed Sept. 10, 2021).

CVP repayment obligations during the damages period and refund excess collections. Nor is the Bureau using it to re-compute either the CVP repayment obligations or the M&R payments for which non-plaintiff contractors were responsible during the same time periods.

15. The Government's most significant departure from historical CVP cost allocation is its subtraction from water users' allocations of costs that water users must repay the United States related to the construction of CVP water distribution systems and San Felipe "out of basin" facilities. Holding everything else constant, the Government's exclusion of CVP water distribution systems and San Felipe out of basin facilities accounts for the majority of the difference between the Government's calculation of damages and ours.
16. The Government's witnesses acknowledge that the exclusion of these costs is a departure from historical practice,⁵ but do not offer a sound basis for calculating damages using cost allocations different from those that were in effect during the damages period. One witness, Dr. Taylor, asserts that the original inclusion—in place for thirty years—should have been changed in 1993, but was not "corrected" until "the implementation of the final cost allocation in 2020."⁶ But the 2020 study states that it applies prospectively, and neither explains nor justifies retroactive cost allocation changes for purposes of computing damages.
17. Dr. Taylor suggests several other rationales for excluding distribution systems costs.⁷ The offered rationales do not justify exclusion because none was persuasive enough to be adopted by the Bureau during the damages period or is a persuasive basis to justify exclusion now for purposes of calculating damages. Moreover, neither Dr. Taylor nor any of the other Government witnesses addresses the reasoning behind the also-excluded San Felipe costs or the other cost categories for which the Government proposes different accounting treatment than was used historically.

IV. BASES FOR OPINIONS

18. Both sides agree that damages in this case are the difference between what plaintiffs actually paid during the damages period (fiscal year 2008 through fiscal year 2020) and what the Bureau should have charged during that period applying proportionality.⁸ The parties

⁵ See Expert Disclosure of Steve Pavich (Pavich Disclosure) at 4; Expert Disclosure of Dr. William (Bill) J. Taylor (Taylor Disclosure) at 4.

⁶ Taylor Disclosure at 4.

⁷ *Id.* at 3-5.

⁸ Expert Disclosure of Mr. Spencer Walden (Walden Disclosure) at 2.

disagree about how to calculate what the Bureau should have charged the plaintiffs. The most consequential difference concerns how the parties quantify the “water and power users’ respective allocations for repayment of the Central Valley Project” (CVPIA § 3407(d)(2)(A)) to which the M&R charges at issue in this case should be proportional.

19. I explained in my affirmative report that, to avoid undue speculation, any assessment of what power contractors should have paid during the damages period should reflect the facts and circumstances that existed at the time when the charges were levied.⁹ For purposes of measuring proportionality, that means using the CVP cost allocations that were in effect when the M&R charges were imposed.
20. As I further explained,¹⁰ Joint Exhibit 2, which the parties introduced at trial, was the parties’ then-agreed-upon calculation of water and power users’ respective allocations for repayment of the Central Valley Project on a ten-year rolling average basis through FY 2015 based upon the Bureau’s actual, historical CVP cost allocations for power and water users. The Government’s response to plaintiffs’ interrogatory no. 25 provided corresponding figures computed on the same basis for later years.¹¹
21. The Government’s expert disclosures confirm that Joint Exhibit 2 reflected the Bureau’s historical allocation of CVP costs during the damages period. *See* Pavich Disclosure at 4 (describing Joint Exhibit 2 as reflecting the allocations “that [were] used historically”).
22. The Government’s disclosures confirm that their damages calculations do not use the Bureau’s historical cost allocations to measure proportionality. Instead, they adopt new cost allocation assumptions “that are different than what was used historically” (*id.*) and apply the new assumptions “retroactively . . . to all CVP plant-in-service allocations” (*id.* at 4-5).
23. Mr. Pavich’s disclosure states (at 4) that “[a] list of all costs included/excluded in the CVPIA proportionality calculations is available in a separate file (refer to Bates numbers: GOV0000958-959), which are consistent with the assumptions used in the CAS. There are several key CAS assumptions used for CVPIA proportionality calculations that are different than what was used historically (see Joint Exhibit 2).” But neither Mr. Pavich or Mr. Walden nor Dr. Taylor explain how, to what extent, or why the Government used the 2020 CAS for purposes of developing the Government’s damages calculation. In any event, it is neither

⁹ Affirmative Report ¶ 45.

¹⁰ *Id.*, ¶ 60.

¹¹ *Id.*, ¶ 61.

sound nor sensible to calculate what charges would have been imposed in the period 2008-2019 by applying a methodology developed in 2020 that is based on assumptions contrary to those that were operative during the damages period.

A. THE DEFENDANT’S DISCLOSURES PROVIDE NO METHODOLOGICAL JUSTIFICATION FOR DEFENDANT’S DAMAGES CALCULATION

24. The Defendant has provided three disclosures from possible expert witnesses: a four-page disclosure from Mr. Spencer Walden, an accountant with the Bureau of Reclamation concerning “how the Government calculated damages”; a six page disclosure of from Dr. William Taylor, an economist with the Bureau “to provide testimony concerning the role and appropriateness of the U.S. Bureau of Reclamation’s (Reclamation) cost allocation in this case;”¹² and a six-page disclosure from Mr. Steve Pavich, an economist with the Bureau, “concerning the percentages used to calculate proportionality for CVPIA Restoration Fund Payments.”¹³
25. Mr. Walden states, “In general, the damages amount is the difference between what was paid and what should have been paid.”¹⁴ His disclosure further asserts that his damages calculation is “consistent with the court’s opinion,” and that the amount of Plaintiffs’ damages is \$68,154,911.¹⁵ This is the same damages figure that the Defendant provided in discovery as a preliminary calculation in response to interrogatory no. 17. While the parties agree that the damages amount should be calculated as the difference between what plaintiffs actually paid and what they should have paid during the damages period had the Bureau implemented the statutory proportionality requirement, Mr. Walden’s damages calculation is substantially less than my calculation of \$81,872,385.¹⁶
26. The difference between Plaintiffs’ damages calculation and Defendant’s damages calculation seems to depend upon two methodological differences. First, the Government’s damages calculation is premised upon retroactive adjustments to the actual historical ten-year rolling averages of water and power customers’ respective allocations of responsibility to repay CVP costs during the damages period. Second, the Government’s calculation also uses a “two-year

¹² Walden Disclosure at 1; Taylor Disclosure at 1.

¹³ Pavich Disclosure at 1.

¹⁴ Walden Disclosure at 2.

¹⁵ *Id.* at 2, 4.

¹⁶ Affirmative Report at ¶ 76.

lag” not in effect during the damages period and instead first implemented by the Bureau to calculate power customers M&R charge payments on a going-forward basis, beginning in FY 2021.¹⁷

27. Although Mr. Walden’s disclosure describes the mathematical formula the Government used to calculate its damage amount, and the use of the two-year lag, his disclosure does not acknowledge the use of the ten-year rolling averages that do not reflect the cost allocations in use at the time. He instead refers to the use of “appropriate allocation percentages.” Specifically, he states: “For determining power’s M&R payment, Reclamation will apply *the appropriate allocation percentage identified from the ten-year rolling average for repayment of the CVP to actual water receipts*, inclusive of both discretionary payments and non-discretionary payments using a two-year lag.”¹⁸ The adjustments that the Government intends to make to the ten-year rolling average percentages are revealed in Mr. Pavich’s disclosure.

28. The Pavich disclosure confirms that Joint Exhibit 2 represents the “historical” CVP cost allocation figures, the same conclusion I reached and explained in my affirmative report. His disclosure further explains that the Bureau’s 2020 CAS is used to develop these charges currently and going forward.¹⁹ But the Bureau is apparently not using the 2020 CAS in its entirety to calculate damages; it has instead adjusted the historical CVP cost allocation figures in Joint Exhibit 2 to account for certain methodological changes in the 2020 CAS.²⁰

He states by way of explanation:

The CVPIA proportionality percentages exclude direct assigned and certain other costs that were excluded from the SCRB methodology in the [2020] CAS. A list of all costs included/excluded in the CVPIA proportionality calculations is available in a separate file (refer to Bates number: GOV0000958-959), which are consistent with the assumptions used in the CAS. There are several key CAS assumptions used for CVPIA proportionality calculations that are different than what was used historically (see Joint Exhibit 2).

¹⁷ *Id.* at ¶¶ 38-39 (discussing two-year lag versus historical annual approach).

¹⁸ Walden Disclosure at 2 (emphasis supplied).

¹⁹ Pavich Disclosure at 4.

²⁰ *Id.*

Id. However, Mr. Pavich does not provide support for calculating damages using “key assumptions” that differ from the historical inputs.

29. Dr. Taylor’s disclosure discusses the Bureau’s cost allocation process, including the direct assignment of certain costs and the use of the “separable cost remaining benefit” (SCRB) process to allocate other costs. Although Dr. Taylor’s disclosure addresses certain of the Government’s “adjustments” (which I address more fully below), his disclosure does not provide a justification for the Bureau’s use of the 2020 study assumptions to calculate damages rather than the historical ten-year rolling average CVP cost allocations that were in effect during the damages period.
30. Mr. Walden’s disclosure addresses the two-year lag that is the other major difference between my calculations and the Government’s. He says that the Bureau has implemented the two-year lag in order “[t]o set [M&R] bills for the upcoming fiscal year.”²¹ But Mr. Walden’s disclosure does not explain why it is appropriate to use the two-year lag for purposes of calculating Plaintiffs’ damages when it was not used for purposes of developing M&R charges during the damages period. I express no opinion on the Government’s use of a two-year lag to establish the charges for power on a going-forward basis.
31. The Government’s disclosures do not justify retroactively applying certain methodology changes in the 2020 CAS study to the damages period, when all of the M&R payments at issue in this case were computed and assessed before the 2020 study was completed. The same concerns holds with respect to the retroactive imposition of the two-year lag for purposes of calculating damages. No post hoc adjustments are appropriate because damages should reflect the charges that plaintiffs would have paid had the Bureau applied proportionality during the damages period based on then-extant data and the cost allocation studies and policies in effect at the time.

²¹ Walden Disclosure at 2.

B. THE ADJUSTMENTS AS DESCRIBED BY MR. TAYLOR ARE INAPPROPRIATE TO USE FOR DAMAGES CALCULATIONS IN THIS CASE.

32. Plaintiffs rely on the 1970 Cost Allocation Study (as updated in 1976).²² All bills sent and paid during the agreed damages period were calculated under the 1970 CAS, as updated.²³ The Government relies on the 2020 Cost Allocation Study, which the Government has only applied prospectively to CVP and CVPIA cost allocations in FY2021. As I explained in my affirmative report, Joint Exhibit 2 reflects the historical annual CVP cost allocations in place during the damages period through fiscal year 2015, the defendant's response to interrogatory 25 provides corresponding data through fiscal year 2019, and I based my calculations on those historical percentages.
33. Conversely, the Government's damages calculations rest on "several key CAS assumptions . . . that are different than what was used historically."²⁴ The Government applies these changed assumptions "retroactively . . . to all CVP plant-in-service allocations used in [its] analysis."²⁵ In discovery, the Government provided a listing of 39 cost categories and stated whether the costs were included or excluded from the allocations it used in computing damages.²⁶ A subsequent discovery response revealed that in twelve of the 39 categories the Government's damages calculations departed from the historical allocations reflected in Joint Exhibit 2.²⁷ The response to interrogatory no. 27 states:

We indicate in bold below whether Reclamation, in developing JX 2, included or excluded the referenced costs from the CVPIA proportionality calculation. After further analysis, Reclamation currently takes a different position with respect to whether certain of those costs should be included or excluded from the proportionality calculation.

The quoted discovery response refers to the Bureau having chosen to take a different position on the identified cost categories "[a]fter further analysis," but no such analysis is included as part of the disclosures. The twelve categories with "a discrepancy between JX 2's inclusion

²² The referenced update was issued on March 8, 1976. *See* Bates No. GOV0000105. We refer to it here as the 1976 update, though it is sometimes also referred to as the 1975 update.

²³ As I discuss below, the Bureau also performed a study in 2001 that reviewed the then-existing allocations, considered alternatives, and decided to keep the existing allocations in place.

²⁴ Pavich Disclosure at 4.

²⁵ *Id.* at 4-5.

²⁶ Bates Nos. GOV0000958-59.

²⁷ Defendant's response to plaintiffs' interrogatory no. 27.

or exclusion of certain costs and Reclamation's current position regarding whether those costs should be included or excluded from the proportionality calculation" were:²⁸

- Benefits (SCRB) used in the Final Cost Allocation Study (CAS): NOT APPLICABLE
- Fish & Wildlife Enhancement costs: EXCLUDED
- Pacific NW-Pacific SW Intertie (PACI) owned by WAPA: EXCLUDE
- Water distribution systems (repayment contracts): INCLUDE
- San Felipe Unit costs: INCLUDE
- Repayment obligations -- USACE (included in water rates): INCLUDE
- WAPA retired assets (included in water rates): INCLUDE
- Direct Assign -- Safety of Dams costs (15% reimbursable share): INCLUDE
- Folsom Safety of Dams not in repayment (not currently allocated): INCLUDE
- CVPIA-authorized construction costs (not currently allocated): INCLUDE
- Interest During Construction: INCLUDE
- Capitalized OM&R/Replacements (after FY-13): INCLUDE

34. For reasons I explained above and in my affirmative report, post hoc adjustments are inappropriate. The damages in this case should reflect the charges that plaintiffs would have paid had the Bureau applied proportionality during the damages period based on then-extant data and the cost allocation studies and policies in effect at the time.

35. I intended (as stated in my affirmative report) to comment here on the Government's specific adjustments. But the Government's disclosures do not discuss most of the categories as to which the Government changed its position from Joint Exhibit 2. While spreadsheets produced in discovery allow us to quantify the amounts included or excluded, neither the discovery nor the Government's disclosures describe the nature of the facilities or costs at issue or the basis for the Government's decision to treat the costs differently in its damage calculations than it did in its historical cost allocations and Joint Exhibit 2. The Government's failure to explain and support its modifications to the historical cost allocations is an independent reason to reject them.

36. The post hoc adjustment that had the biggest dollar impact on the Government's damages calculations was the removal of the capital costs of CVP water distribution systems and San

²⁸ *Id.* In this interrogatory response, the words "include," "exclude," and "not applicable" refer to whether Joint Exhibit 2 and response to interrogatory no. 25 included the costs in water and/or power users' allocations for CVP repayment. The categories excerpted above are those for which the Government adopted the opposite treatment in developing its damages calculation.

Felipe “out of basin” facilities. Those costs were included historically among the costs allocated to water users, and were included in the allocations used to develop the ten-year rolling averages in Joint Exhibit 2. The removed costs collectively amount to more than \$600 million. For example, the Government removed \$294,967,305 of water distribution system costs and \$329,860,459 of San Felipe costs from the amounts allocated to water users in the Bureau’s annual allocation spreadsheet for fiscal year 2015. The exact amounts vary from year to year, but are similar in magnitude. The removal of these costs significantly affected the Government’s damages calculation. I estimate that adding back only these costs (restoring them to their original treatment) would increase the Government’s computed damages to an amount that approximates our damages calculation.

37. The exclusion of these costs is a departure from practice during the damages period. In its 2001 cost allocation study,²⁹ the Bureau explained the prevailing treatment of local water distribution systems and other “single-purpose” facilities: “These facilities are included in the CVP cost allocation because Reclamation is responsible for collections under provisions of the repayment contracts. Their costs are allocated to the water supply purpose and then set aside in a separate repayment contract category.”³⁰ Tables ES-1, ES-2, and ES-3 of that report illustrate the treatment. Table ES-1 shows the “Plant-in-Service Total Cost in Existing Allocation” for M&I Water Users of \$436.5 million and Irrigation Water Users in the amount of \$1,476.2 billion.³¹ Tables ES-2 and ES-3³² show the breakdown of those totals. In each case, the table excludes “Repayment Contracts for Distributions Systems” from the “subtotals” used in setting water service contracts rates, an exclusion that makes sense because the amounts are being recovered under other contracts. But tables ES-2 and ES-3 include those costs when computing the totals that are carried into Table ES-1 stating the “Total Cost in Existing Allocation” for M&I and Irrigation Water Users.

²⁹ Bureau of Reclamation, Central Valley Project Cost Allocation Study (2001), https://www.usbr.gov/mp/cvp/docs/cost_alloc_study_fnl/cost_alloc_full_doc_05-2001.pdf (2001 CAS).

³⁰ 2001 CAS at III-2, Bates No. GOV0000636. *See also* Central Valley Project California, Reallocation of CVP costs FY1969-70, Bates Nos. GOV00000189, GOV0000208, GOV0000210, GOV0000214, GOV0000222, GOV0000232-33, GOV0000251, and GOV0000264.

³¹ 2001 CAS at ES-5, Bates No. GOV0000617.

³² *Id.* at ES-6, Bates No. GOV0000618.

38. In 2001, the Bureau considered a proposal to exclude “local distribution facilities that are subject to repayment contracts” from the specific cost totals used to allocate joint costs,³³ but declined to adopt it. The Bureau concluded that there were no “compelling reasons” to adopt the proposed alternative allocation method.³⁴ Instead, the Bureau decided that the existing allocation was “the preferred allocation alternative,” which the Bureau would “continue to use . . . for CVP plant-in-service allocations.”³⁵
39. Dr. Taylor’s rationale for excluding these costs from the Government’s calculations here amounts to a claim that the historical treatment was wrong and was corrected in the 2020 cost allocation study.³⁶ Even if that were correct, the 2020 study applies prospectively and affects CVP water rates, M&R charges, and repayment obligations beginning with fiscal year 2021. It does not purport to change retroactively the cost allocations that were previously in effect, nor does it justify modifying those historical cost allocations retroactively for purposes of calculating damages.
40. Dr. Taylor appears to base his recommendation in part on Business Practice Guidelines (BPGs) considered by the Government in 1993, but never implemented. Those BPGs did suggest that water distribution systems be excluded from the percentages, and Dr. Taylor points to the BPGs as apparent support for excluding distribution system costs as part of the percentage used for CVPIA purposes. Dr. Taylor has not cited the authority relied upon for this methodology change, but instead stated “the thought process utilized in the development of the 1975 cost allocation update was not consistent with how this information should be used and that individual contractor indebtedness to the federal government should not be considered when looking at project cost recovery.”³⁷ But rather than supporting his position, I read Dr. Taylor’s disclosure as admitting that his adjustment was not implemented during the damages period.³⁸

³³ See *Id.* at IV-7, IV-10, Bates Nos. GOV0000649, GOV0000652.

³⁴ *Id.* at VII-2, Bates No. GOV0000687.

³⁵ *Id.* at ES-5, Bates No. GOV0000617.

³⁶ See Taylor Disclosure at 4.

³⁷ *Id.* at 4.

³⁸ Even if those guidelines had been implemented, the passage to which Dr. Taylor seems to be referring would have provided for the exclusion of “distribution and drainage” facilities constructed or financed for the “exclusive use of individual Water Contractors.” See Joint Exhibit 6 at 28 n.18 (Bureau of Reclamation, *Title 34 Public Law 102-575, Central Valley Improvement Act, Central Valley Project - California, Revised Interim Guidelines: Restoration Fund Payments and Charges*, 28 n.18 (1993), https://www.usbr.gov/mp/cvp/docs/cvpia_revised_interim_guidelines.pdf)).

41. To recap the chronology, there have been two parallel timelines: one involving CVP cost allocation and the other involving proportional CVPIA charges. For CVP cost allocation, distribution system and San Felipe costs have been included and allocated to water users since at least the 1970s. In 1993, the Bureau proposed to exclude distribution system costs from the CVPIA proportionality calculations, but never finalized or implemented that provision. In the 2001 CVP cost allocation study, the Bureau considered excluding the distribution system costs and separating them from the CVP cost allocation, but decided not to do so. In the 2020 CVP cost allocation study, the Bureau took the step it considered but declined to take in 2001. The Bureau is applying the 2020 study to CVP rates prospectively, beginning with 2021 rates, but here relies on the study to justify removing distribution system costs from the historical CVP cost allocations for purposes of calculating damages. I disagree with that step.
42. Dr. Taylor contends that “[w]hen Reclamation relies on the ‘CVP cost allocation’” to establish proportional M&R charges “it is the SCRB, and not the whole allocation, that reflects the appropriate allocation to use.”³⁹ As he observes, there are \$3.9 billion of plant-in-service costs identified in the CVP for final cost allocation, but of that amount only \$2.2 billion had to be allocated using the SCRB method because the remainder had prescribed cost assignments. *Id.* The distribution system costs are among those with prescribed cost assignments; they are to be repaid by the relevant water contractors under repayment contracts between the United States and the contractors.
43. I disagree with Dr. Taylor’s contention that the CVPIA proportionality calculations should take into account only the subset of costs that are allocated to water or power users by the SCRB method and should exclude costs allocated to those users by other means. The CVPIA’s proportionality provision refers to water and power users’ “respective allocations for [CVP] repayment” (CVPIA § 3407(d)(2)(A)) and does not distinguish among costs attributable to water and power users based on *how* they have been allocated or whether they had prescribed cost assignments. Nor does it distinguish among costs based on whether they are payable by all water or power users or sub-allocated to a subset of them. Focusing only

Even if it had been put into effect, this would not have justified the exclusion of the costs of San Felipe out of basin facilities serving more than one contractor.

³⁹ Taylor Disclosure at 3.

on those costs that are allocated using the SCRB process captures only a portion of the costs for which water or power users are responsible and is, from an accounting standpoint, unduly narrow.

44. Dr. Taylor states that “[r]eliance on the allocation as a whole mixes multiple allocation processes and the result is hodge-podge.”⁴⁰ Again I disagree. Using multiple allocation processes to allocate costs is not uncommon. To the contrary, multiple process cost allocations are commonly utilized to achieve the fundamental requirement for a cost allocation: to causally link the allocable cost to the activity or cost objective to which the costs are allocated. Different cost types often have different causal connections to the cost objectives to which they are allocated and, as a result, must be allocated using different allocation processes. The end result of a multiple process allocation is to identify and accumulate the total cost of cost objectives. The sum of the direct (separable) and indirect or allocable costs is the total cost of a cost objective (project or purpose). I agree with Dr. Taylor when he states “[t]he sum of the separable and joint cost allocated to each purpose becomes the total cost for each purpose”⁴¹ The multiple process allocation achieves the objective of fully recovering the total cost of the process.
45. Dr. Taylor also seems to suggest that the distribution facilities (and, presumably, the San Felipe “out of basin” facilities) are in some sense outside of and not really part of the CVP.⁴² However, Dr. Taylor’s approach is contrary to decades of historical practice including the costs of these facilities within the CVP cost allocation process, and is contrary to the 2020 study’s acknowledgement that the costs “remain part of the overall CAS.”⁴³ Additionally, counsel informs me that Congress included as an authorized purpose of the CVP the “construction under the provisions of the Federal reclamation laws of such distribution systems as the Secretary of the Interior deems necessary”⁴⁴ and listed such systems among

⁴⁰ *Id.* at 3.

⁴¹ *Id.* at 3.

⁴² See Taylor Disclosure at 5 (“Ultimately, what constitutes the water and power users’ respective allocations for repayment of the Central Valley Project has been determined in the CVP final cost allocation. First, the CVP is defined to extend to the point where the CVP water or power is transferred to the contractor.”); *id.* (asserting that recovery of the costs of the distribution system is “repayment by the water and power contractor for their business and not the CVP”).

⁴³ 2020 CAS at 19.

⁴⁴ 54 Stat. 1198, 1200 (Oct. 17, 1940).

the “principal” works of the CVP.⁴⁵ Dr. Taylor’s departure takes an approach that is inconsistent with the Bureau’s historical practice.

46. Dr. Taylor further appears to suggest that distribution system costs should be removed from the allocations used to establish proportional M&R charges because the costs will be repaid pursuant to individual repayment contracts rather than through water service rates.⁴⁶ But the CVPIA’s proportionality provision focuses on whether costs are allocated to water users or power users, not the particular mechanism used to accomplish repayment. Repayment contracts and water service contracts are two means of recovering CVP costs that contractors must repay. To prevent double counting, it is appropriate to deduct repayment contract amounts from the total allocations to isolate the remainder that must be recovered through water service contracts. But that rate-setting step does not remove the costs from water’s total allocation of CVP costs. See Tables ES-1, ES-2, and ES-3 of the 2001 CAS report.
47. Dr. Taylor also alludes to the fact that some distribution systems were built by water contractors with funds borrowed from the United States and not by the United States itself.⁴⁷ That may be, but it is not clear why it should matter for purposes of the damages calculation in this case. Regardless of who built them, all of the facilities at issue are owned by the United States and were built for delivery of CVP water, financed by the United States with funds that the contractors must repay, and the Bureau historically included the costs in water users’ CVP cost allocations during the damages period.
48. Finally, Dr. Taylor appears to suggest that water distribution system costs should be excluded from the CVP cost allocation as a matter of equity because power contractors’ electric distribution system costs are not included.⁴⁸ But this overlooks a crucial difference. Power contractors financed the construction of their own distribution systems, so there is no federal repayment obligation to include in or exclude from the CVP cost allocation. In short, power

⁴⁵ Public Law 86-488, 74 Stat. 156 (1960); Public Law 90-72, 81 Stat. 173 (1967).

⁴⁶ Taylor Disclosure at 5 (“CVP Ratesetting Policies make it clear that when a feature (isolated or out of basin) benefits only a contractor (or group of contractors) that the costs will not be shared by all CVP contractors. To include investment for some contractors and not for others does not result in a fair or equitable proportion of what CVP costs are allocated to a project purpose.”); Defendant response to interrogatory no. 19 (“Water distribution systems, including San Felipe Unit costs that are covered under repayment contracts, are excluded from the CVPIA proportionality percentages.”).

⁴⁷ Taylor Disclosure at 5.

⁴⁸ E.g., Taylor Disclosure at 5: “In many ways, distribution systems are similar to power lines providing electricity to homes and businesses.”; Bates No. GOV0001056-57 (“To assure equivalency and equitable treatment of water and commercial power investments when determining allocation percentages between the two functions for the purposes of allocating CVPIA costs, it is appropriate to only consider allocating the costs of main CVP facilities.”).

contractors and water contractors are differently situated in this respect, so it is not inequitable to treat them differently.

V. DOCUMENTS, DATA OR OTHER INFORMATION CONSIDERED

49. The list of documents, data or other information I considered in conjunction with this report can be found in Attachment I.

VI. CONCLUSIONS

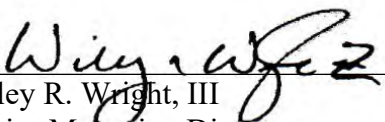
50. The Government's retroactive application of the 2020 CAS is inappropriate and inconsistent with the cost allocations performed using the methodologies applicable during the damages period.

51. The Government's exclusion of certain costs (e.g., water distribution systems and San Felipe, out of basin) from the allocation process is contrary to the treatment of these costs during the damages period.

52. The Government has failed to identify and establish fully the basis for the cost adjustments they have made.

53. The Government's adjustments are inappropriate.

54. The Government's expert disclosures do not contain any data or information that would alter the damages amount included in my affirmative report.



Wiley R. Wright, III
Senior Managing Director

September 13, 2021
Date

ATTACHMENT I

Documents, Data or Other Information Considered

DOCUMENTS, DATA OR OTHER INFORMATION CONSIDERED

1. Expert Disclosure of Spencer Walden
2. Expert Disclosure of Dr. William (Bill) J. Taylor
3. Expert Disclosure of Steve Pavich
4. 54 Stat 1198, 1200 (October 17, 1940)
5. Public Law 86-488, 74 Stat. 156 (1960)
6. Public Law 90-72, 81 Stat. 173 (1967)
7. All documents, data, or other information identified in Attachment II to my affirmative report.

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER AGENCY, ET AL.,

Plaintiffs,

v.

THE UNITED STATES,

Defendant.

Case No. 14-817C

Supplemental Expert Report of
Wiley R. Wright, III CPA
September 10, 2021

NORTHERN CALIFORNIA POWER AGENCY, ET AL.

v.

THE UNITED STATES

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Attachments

Attachment I: Documents, Data or Other Information Considered

Attachment II: Schedules

Schedule 1: CVPIA Restoration Fund Commercial Power Damages Assessment – No
Lag

Amended Schedule 2: CVPIA Restoration Fund Commercial Power Damages
Assessment – No Lag (Recomputed)

Schedule 3: CVPIA Restoration Fund Commercial Power Damages Assessment – 2-year
Lag

Amended Schedule 4: CVPIA Restoration Fund Commercial Power Damages
Assessment – 2-year Lag (Recomputed)

NORTHERN CALIFORNIA POWER AGENCY, ET AL.

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I. INTRODUCTION AND SCOPE OF WORK

1. My name is Wiley R. Wright, III. I have been retained by the plaintiffs in this case—Northern California Power Agency (NCPA) and the Cities of Redding, Roseville, and Santa Clara, California—to provide my opinions concerning the methods and data to use to compute damages in this case. I also have been asked to perform and present the necessary damage calculations.
2. For my analysis and testimony, I will be compensated at my usual hourly rate of \$350.
3. The Cities of Redding, Roseville, and Santa Clara are members of NCPA, and in this report I refer to the plaintiffs collectively as NCPA.
4. I issued an affirmative report in this matter on August 12, 2021 that set forth my opinions regarding the methods and data used to compute damages in this case, presented my calculation of damages and included a discussion of the Central Valley Project, the Central Valley Project Improvement Act, and the issues in the current litigation (affirmative report). In the affirmative report, I calculated damages using the historically applicable proportionality percentages set forth in a joint trial exhibit already in evidence and corresponding percentages produced in discovery for later years. As a check, I also calculated damages using proportionality percentages I derived directly from annual cost allocation spreadsheets that the Bureau prepared during the damages period.
5. After issuing my affirmative report, I discovered a formula error in the alternative damages calculation models. This report includes the correction to the damages amounts using the alternative method set forth in my affirmative report.

II. EXPERT QUALIFICATIONS AND PREVIOUS TESTIMONY

6. My qualifications and experience, including a copy of my resume, were addressed and included in my affirmative report.
7. I am responsible for the services performed and the opinions given herein and have personally rendered or reviewed the analysis performed by the members of our staff with respect to them. Use of the words “I”, “my”, “we”, and “our” throughout this report means myself and the BDO professionals working under my direction and supervision.

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8. All work performed by BDO was completed in accordance with the American Institute of Certified Public Accountants (AICPA) Statement on Standards for Forensic Services.¹ These standards require, in part, that the practitioner obtain sufficient relevant data to afford a reasonable basis for conclusions or recommendations in relation to any professional services provided. I have done so for the work performed and opinions expressed herein.
9. The documents, data and information that I considered in performing my analysis are the types of documents, data and information that experts in my field typically consider and rely upon in performing similar damages engagements.

III. SUMMARY OF OPINIONS

Correction of alternative quantification of damage amounts

10. As reflected in my affirmative report, I quantified Plaintiffs' damages for the period fiscal year (FY) 2008 through FY 2020 by comparing the actual amounts they paid to the amounts they should have paid during the damages period applying proportionality. My damages calculations were presented in my affirmative report. Subsequent to the issuance of my affirmative report, I identified formula errors in an Excel worksheet I used to develop my damages calculations using then-contemporaneous annual cost allocations for both the no lag and two-year lag approaches. The formula errors had no impact on my calculations of damages using Joint Exhibit 2 and interrogatory response 25 presented in my affirmative report; those amounts remain unchanged.

IV. BASES FOR OPINIONS

11. As I explained in my August 12, 2021 affirmative report, this is an overcharge case. Under the Central Valley Project Improvement Act (CVPIA), the United States imposes charges—called “mitigation and restoration” (M&R) payments—on contractors that receive water or electric power from the Central Valley Project (CVP or Project). The CVPIA requires that, to the greatest degree practicable, M&R charges be collected from water and power contractors in the same proportion measured over a ten-year rolling average as their respective

¹ Statement on Standards for Forensic Services (SSFS) No. 1 (FS sec. 100).

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allocations of responsibility to repay CVP costs. The United States, however, did not abide by that limitation and instead imposed disproportionate charges upon the plaintiffs and other power contractors. In my affirmative report, I quantified the proportionate amounts that the United States should have charged plaintiffs during the relevant period and the disproportionate excess that it actually charged them, which the Government should pay as damages.

12. In my report, I calculated what the United States should have charged by using the proportionality percentages set forth in Joint Exhibit 2—an exhibit the parties jointly sponsored during the 2018 trial to show the ten-year rolling average of water and power contractors' repayment allocations through FY 2015. See Jan. 17, 2018 Tr. at 322:23–323:12. For later years, I used percentages provided by the Government in response to plaintiffs' interrogatory 25, which asked the Government for percentages calculated on the same basis as Joint Exhibit 2 covering the ten-year periods 2007–2016 through 2011–2020.² I explained that these percentages reflected the cost allocations actually in effect during the damages period, and were the least speculative percentages to use in calculating damages.
13. As a check, I also performed damages calculations using proportionality percentages I derived directly from CVP cost allocation spreadsheets that the Government prepared annually during the damages period. See paragraphs 63–67 & schedules 2 and 4 of my August 12, 2021 affirmative report. Using these percentages, schedule 2 compared plaintiffs' actual payments to what they would have been had power's M&R payment been proportional to water's CVPIA payments for the same year. Schedule 4 estimated damages as if power's M&R payments had been proportional to water's CVPIA payments two years earlier.
14. Subsequent to the issuance of my affirmative report of August 12, 2021, I noted an error in the calculations and resulting damages estimate based on these then-contemporaneous annual spreadsheets. The errors were due to (1) a formula that carried through an entire column of totals, (2) one of the ten-year rolling averages incorrectly included 11 years of costs, and (3) a typographical error of the commercial power input for 2015. The cumulative result of

² As explained in my August 12, 2021 affirmative report, the Government provided data through FYs 2010–2019, and asserted that cost allocation data for 2020 was not yet available. In my damage calculations, when proportionality percentages for FY 2020 were required, I held the percentages constant from 2019 to 2020.

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these errors changed the ten-year rolling average percentages which impacted the total damage amounts. The no lag damage amount decreased by \$54,950 as compared to the amount that was in my affirmative report. The two-year lag damage amount increased by \$195,525 as compared to the amount reflected in my affirmative report.

15. I have attached to this supplemental report amended versions of schedules 2 and 4 reflecting my corrected calculations. Schedules 1 and 3 remain unchanged, and represent my opinion about the damages the defendant owes using proportionality percentages from Joint Exhibit 2 and interrogatory 25. The tables below summarize the changed and unchanged damage amounts:

No lag

Damages using Joint Exhibit 2 and Interrogatory 25 (unchanged) [Schedule 1]	Damages presented in affirmative report using then-contemporaneous annual cost allocations [Schedule 2]	Damages using then-contemporaneous annual cost allocations, as recalculated [Amended Schedule 2]
\$81,872,385	\$82,231,012	\$82,176,062

Two-year lag

Damages using Joint Exhibit 2 and Interrogatory 25 (unchanged) [Schedule 3]	Damages presented in affirmative report using then-contemporaneous annual cost allocations [Schedule 4]	Damages using then-contemporaneous annual cost allocations, as recalculated [Amended Schedule 4]
\$85,990,156	\$85,962,400	\$86,157,925

16. For the reasons explained in my August 12, 2021 affirmative report, the amount calculated in schedule 1—\$81,872,385—is the amount I believe the court should award as damages.

V. DOCUMENTS, DATA OR OTHER INFORMATION CONSIDERED

17. The list of documents, data or other information I considered in conjunction with this report can be found in Attachment I.

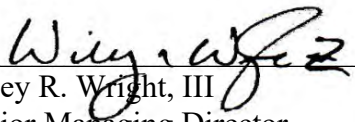
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VI. CONCLUSIONS

18. Except as noted above, the conclusions set forth in my August 12, 2021 affirmative report remain unchanged.



Wiley R. Wright, III
Senior Managing Director

September 10, 2021
Date

ATTACHMENT I

Documents, Data or Other Information Considered

DOCUMENTS, DATA OR OTHER INFORMATION CONSIDERED

Docket Filings:

1. 2015.01.20 Defendant's Motion to Dismiss & Appendix
2. 2015.04.01 Plaintiffs' Opposition to Defendant's Motion to Dismiss
3. 2015.05.08 Defendant's Reply to Plaintiffs' Opposition to Defendant's Motion to Dismiss
4. 2016.09.27 Amended Complaint
5. 2016.10.14 Defendant's Answer to Amended Complaint
6. 2017.12.05 Defendant's Motion in Limine to Exclude Testimony
7. 2017.12.13 Plaintiffs' Response to Defendant's Motion in Limine to Exclude Witness Testimony
8. 2017.12.20 Order Denying Motion in Limine
9. 2017.12.29 Stipulation of Agreed-Upon Facts
10. 2018.04.02 Defendant's Post-Trial Brief
11. 2018.04.02 Plaintiff's Proposed Findings of Fact and Conclusions of Law
12. 2018.05.04 Defendant's Response Brief
13. 2018.05.04 Plaintiffs' Response Brief
14. 2019.03.29 Corrected Brief of Defendant
15. 2015.06.29 Order on Defendant's Motion to Dismiss
16. 2018.07.30 United States Court of Federal Claims Opinion
17. 2018.07.31 United States Court of Federal Claims Judgment
18. 2019.11.06 United States Court of Appeals for the Federal Circuit, Opinion
19. 2020.05.07 Joint Preliminary Status Report filed by Plaintiffs
20. 2018.01.05 Defendant's Amended Exhibit List
21. 2019.04.25 Federal Circuit Appendix
22. 2018.12.17 NCPA Initial Brief
23. 2019.03.29 Government Brief
24. 2019.04.18 NCPA Reply Brief

Court of Federal Claims Trial Exhibits:

1. Defendant's Exhibits (Labeled DX01-DX27)
2. 2017.10.30 Joint Trial Exhibits List
3. Joint Exhibits (Labeled JTX001-JTX049)
4. 2017.10.31 Corrected Plaintiffs' Trial Exhibit List
5. Plaintiffs' Exhibits (Labeled PTX 001- PTX479)

Transcripts and Related Materials:

1. 2015.07.02 Telephonic Status Conference
2. 2018.01.03 Pretrial Conference (Telephonic) Transcript
3. 2018.01.16 Trial Volume 1 (1-246)
4. 2018.01.17 Trial Volume 2 (247-499)
5. 2018.01.18 Trial Volume 3 (500 – 736)
6. 2018.01.19 Trial Volume 4 (737 – 977)
7. 2018.01.22 Trial Volume 5 (978-1218)
8. 2018.01.23 Trial Volume 6 (1219-1457)
9. 2018.01.24 Trial Volume 7 (1458-1734)

10. 2018.01.25 Trial Volume 8 (1735-1878)
11. 2018.06.01 Trial Volume 9 Closing Arguments (1879-1952)
12. 2018.05.08 Cumulative Index

Bates-Numbered Documents:

1. DEF-PROD00127021 to DEF-PROD00127073
2. DEF-PROD00188929
3. DEF-PROD00188930
4. PL_REMAND_00000345 to PL_REMAND_00000347
5. GOV000001 to GOV0001023
6. GOV001029 to GOV0003695
7. GOV003697 to GOV0005811

Other Discovery Documents:

1. Defendant's Second Set of Interrogatories and Second Set of Requests for Production of Documents
2. Plaintiffs' Responses to Defendant's Second Set of Interrogatories
3. Plaintiffs' Responses to Defendant's Second Set of Document Requests
4. Plaintiffs' Third Set of Interrogatories
5. Plaintiffs' Fourth Set of Interrogatories
6. Plaintiffs' Fifth Set of Interrogatories
7. Defendant's Second Supplemental Response to Plaintiffs' First Set of Interrogatories to the Defendant
8. Defendant's Responses to Plaintiffs' Second Set of Interrogatories
9. Defendant's Responses to Plaintiffs' Third Set of Interrogatories
10. Defendant's Responses to Plaintiffs' Fourth Set of Interrogatories
11. Defendant's Responses to Plaintiffs' Fifth Set of Interrogatories
12. Plaintiffs' Third Set of Requests for Production of Documents, Electronically Stored Information, and Tangible Things
13. Plaintiffs' Fourth Set of Requests for Production of Documents, Electronically Stored Information, and Tangible Things
14. Plaintiffs' Fifth Set of Requests for Production of Documents, Electronically Stored Information, and Tangible Things
15. Plaintiffs' Sixth Set of Requests for Production of Documents, Electronically Stored Information, and Tangible Things
16. Government's Responses to Plaintiffs' Fourth Set of Requests for the Production of Documents
17. Government's Responses to Plaintiffs' Fifth Set of Requests for the Production of Documents
18. Government's Responses to Plaintiffs' Sixth Set of Requests for the Production of Documents
19. Government's Amended Responses to Plaintiffs' Third Set of Requests for Production of Documents

Other Items:

1. 2019.11.21 CVPIA Business Practice Guidelines
2. 2019.11.21 CVPIA Handout Final
3. 2019.08.16 CVPIA Reclamation Meeting Croffsets
4. 2019.11.21 CVPIA - True-Up_Nov_Stakeholder-Mtg_FINAL
5. 2017.09.14 CVPIA Croffsets Workshop Final

6. 2021.04.21 NCPA Power Overpayment 2008 – 2020 with No Lag (Final with Friant)
7. 2021.04.21 NCPA Power Overpayment 2008 – 2020 with 2 Year Lag (Final with Friant)
8. 2021.04.21 NCPA Power Overpayment 2008 – 2015 with No Lag (with Friant)
9. 2021.04.21 NCPA Power Overpayment 2008 – 2015 no Lag (No Friant)
10. 2021.04.21 NCPA Power Overpayment 2008 – 2017 with 2 Year Lag (with Friant)
11. 2021.04.21 NCPA Power Overpayment 2008 - 2017 with 2 Year Lag (No Friant)
12. 2021.04.21 NCPA Power Overpayment 2008 – 2017 with No Lag (with Friant)
13. 2021.04.21 NCPA Power Overpayment 2008 - 2017 with No Lag (No Friant)
14. 2021.04.21 NCPA Power Overpayment 2008 – 2015 with No Lag (with Friant), as updated
15. 2021.04.21 NCPA Power Overpayment 2008 – 2017 with 2 Year Lag (with Friant), as updated
16. 2021.04.21 NCPA Power Overpayment 2008 – 2017 with 2 Year Lag (with Friant), as updated
17. 2021.04.21 NCPA Power Overpayment 2008 – 2015 with No Lag (with Friant), as updated
18. GAO Report to the Ranking Minority Member, Committee on Resources, House of Representatives, “Information on Allocation and Repayment of Costs of Constructing Water Projects,” GAO/RCED-96-109, July 1996.
19. GAO Testimony Before the Subcommittee on Water and Power Resources, Committee on Resources, House of Representatives, “Reclamation Law and the Allocation of Construction Costs for Federal Water Projects,” GAO/T-RCED-97-150, May 1997.
20. Toni Rae Linenberger for the Bureau of Reclamation, Pacific Northwest-Pacific Southwest Intertie, 1997, Reformatted, re-edited, and re-printed by Andrew H. Gahan in 2013.
21. Reclamation Policy Manual, Water-Related Contracts and Charges – General Principles and Requirements, PEC P05.
22. Central Valley Project Improvement Act, Pub. L. No. 102-575, 106 Stat. 4727-28 (1992)
23. State of WAPA’s Assets, Winter 2021
24. 2020.12.04 Fiscal Year 2020 Actuals – Restoration Fund Letter
25. Ratebooks Irrigation 2003-1998
26. Ratebooks M&I 2003-1998
27. Interior Letter for Future Power Payments
28. NCPA FY2020 Audited Financial Statement
29. Discussions with Mr. Jerry Toenyas, Consultant to NCPA
30. Discussions with Ms. Lena Perkins, Senior Resources Planner & Manager, Program for Emerging Technologies, City of Palo Alto
31. NCPA_FY2020_Audited_Financial_Statement
32. Government-Produced Spreadsheet with filename: CVPIA Croffset Alloc Scenarios_Fy18_updated_revised_R
33. 2021.06.21 Damages to NCPA – 2 year lag
34. 2021.06.21 Damages to 2008 – 2020 with No Lag
35. CVPIA Collections 2008-2020 document
36. Copy of NCPA member BR Share
37. Federal Defendants’ Motion to Dismiss, Case No. 3:20-cv-05630 (D. N. Cal. 2020).

ATTACHMENT II

Schedules

Schedule 1														
CVPIA Restoration Fund Commercial Power Damages Assessment - No Lag														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	42,050,295	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.924%	11,620,566				
2007	42,885,000	37,337,486	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.089%	9,842,320				
2008	43,938,000	27,378,379	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	22.388%	7,475,602	19,535,485	7,752,091	-	7,752,091
2009	45,306,000	25,447,505	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.681%	7,298,593	27,237,496	10,808,410	-	10,808,410
2010	45,567,000	37,328,175	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.056%	11,172,980	(491,386)	(194,992)	-	(194,992)
2011	46,467,000	40,504,786	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.661%	11,851,239	9,109,214	3,614,727	-	3,614,727
2012	46,953,000	44,263,353	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.244%	12,365,287	8,497,346	3,371,925	-	3,371,925
2013	48,963,000	30,445,382	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.794%	8,661,429	8,742,845	3,469,345	-	3,469,345
2014	49,956,000	14,589,574	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.402%	4,070,746	30,249,907	12,003,798	-	12,003,798
2015	50,361,000	9,753,177	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	26.006%	2,706,726	37,682,971	-	15,953,915	15,953,915
2016	51,024,000	23,409,573	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.580%	7,094,454	33,860,444	-	14,335,564	14,335,564
2017	51,135,000	40,121,530	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	27.130%	12,536,321	13,510,676	-	5,720,042	5,720,042
2018	52,359,000	52,765,216	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.690%	17,133,900	(7,236,942)	-	(3,063,918)	(3,063,918)
2019	53,151,000	53,666,371	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	28.240%	17,692,357	13,086,384	-	5,540,409	5,540,409
2020	54,548,000	39,581,290	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	28.240%	12,949,129	6,049,219	-	2,561,070	2,561,070
Total	\$ 723,827,000	\$ 518,642,091	\$ 351,697,526	\$ 364,170,443	\$ 98,688,743	\$ 715,867,970	\$ 814,556,713			\$ 154,471,648	\$ 199,833,660	\$ 40,825,305	\$ 41,047,081	\$ 81,872,385

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
- (3) Power's 10-Year Rolling Average Capital CVP Percentages (JTX2/Interrogatory 25)
- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
- (5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.

Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002.
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

Amended Schedule 2														
CVPIA Restoration Fund Commercial Power Damages Assessment - No Lag, as Recomputed														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	41,909,000	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.715%	11,479,271				
2007	42,885,000	37,316,164	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.052%	9,820,998				
2008	43,938,000	27,362,327	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	22.351%	7,459,551	19,551,537	7,758,460	-	7,758,460
2009	45,306,000	25,432,246	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.644%	7,283,335	27,252,754	10,814,465	-	10,814,465
2010	45,567,000	37,305,703	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.020%	11,150,508	(468,914)	(186,075)	-	(186,075)
2011	46,467,000	40,459,134	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.591%	11,805,586	9,154,866	3,632,843	-	3,632,843
2012	46,953,000	44,215,113	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.172%	12,317,046	8,545,587	3,391,068	-	3,391,068
2013	48,963,000	30,442,083	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.787%	8,658,130	8,746,144	3,470,653	-	3,470,653
2014	49,956,000	14,585,355	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.382%	4,066,527	30,254,126	12,005,472	-	12,005,472
2015	50,361,000	9,744,950	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	25.947%	2,698,499	37,691,198	-	15,957,398	15,957,398
2016	51,024,000	23,388,911	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.523%	7,073,792	33,881,106	-	14,344,312	14,344,312
2017	51,135,000	40,090,715	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	27.081%	12,505,506	13,541,491	-	5,733,088	5,733,088
2018	52,359,000	52,727,002	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.645%	17,095,686	(7,198,728)	-	(3,047,740)	(3,047,740)
2019	53,151,000	53,392,739	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	27.925%	17,418,725	13,360,016	-	5,656,257	5,656,257
2020	54,548,000	39,381,017	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	27.925%	12,748,856	6,249,492	-	2,645,860	2,645,860
Total	\$ 723,827,000	\$ 517,752,459	\$ 351,697,526	\$ 364,170,443	\$ 98,688,743	\$ 715,867,970	\$ 814,556,713			\$ 153,582,016	\$ 200,560,674	\$ 40,886,888	\$ 41,289,175	\$ 82,176,062

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
- (3) Power's 10-Year Rolling Average Capital CVP Percentages
- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
- (5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.

Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002.
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

Schedule 3														
CVPIA Restoration Fund Commercial Power Damages Assessment- 2 Year Lag														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	39,809,669	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.924%	9,379,939				
2007	42,885,000	38,250,246	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.089%	10,755,080				
2008	43,938,000	31,523,343	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	22.388%	11,620,566	15,390,521	6,107,282	-	6,107,282
2009	45,306,000	27,991,232	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.681%	9,842,321	24,693,768	9,799,006	-	9,799,006
2010	45,567,000	33,630,797	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.056%	7,475,602	3,205,992	1,272,205	-	1,272,205
2011	46,467,000	35,952,141	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.661%	7,298,593	13,661,859	5,421,312	-	5,421,312
2012	46,953,000	43,071,046	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.244%	11,172,980	9,689,653	3,845,058	-	3,845,058
2013	48,963,000	33,635,192	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.794%	11,851,239	5,553,035	2,203,561	-	2,203,561
2014	49,956,000	22,884,115	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.402%	12,365,287	21,955,366	8,712,350	-	8,712,350
2015	50,361,000	15,707,880	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	26.006%	8,661,429	31,728,268	-	13,432,860	13,432,860
2016	51,024,000	20,385,865	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.580%	4,070,746	36,884,152	-	15,615,717	15,615,717
2017	51,135,000	30,291,935	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	27.130%	2,706,726	23,340,271	-	9,881,617	9,881,617
2018	52,359,000	42,725,770	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.690%	7,094,454	2,802,504	-	1,186,502	1,186,502
2019	53,151,000	48,510,335	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	28.240%	12,536,321	18,242,420	-	7,723,330	7,723,330
2020	54,548,000	43,766,061	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	28.240%	17,133,900	1,864,448	-	789,355	789,355
Total	\$ 723,827,000	\$ 508,135,626	\$ 351,697,526	\$ 364,170,444	\$ 98,688,744	\$ 715,867,970	\$ 814,556,713			\$ 143,965,182	\$ 209,012,258	\$ 37,360,775	\$ 48,629,382	\$ 85,990,156

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
- (3) Power's 10-Year Rolling Average Capital CVP Percentages (JTX2/Interrogatory 25)
- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
- (5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.

Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002.
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

Amended Schedule 4														
CVPIA Restoration Fund Commercial Power Damages Assessment- 2 Year Lag, as Recomputed														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	39,809,669	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.715%	9,379,939				
2007	42,885,000	38,250,246	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.052%	10,755,080				
2008	43,938,000	31,382,047	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	22.351%	11,479,271	15,531,817	6,163,351	-	6,163,351
2009	45,306,000	27,969,909	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.644%	9,820,998	24,715,091	9,807,467	-	9,807,467
2010	45,567,000	33,614,746	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.020%	7,459,551	3,222,043	1,278,574	-	1,278,574
2011	46,467,000	35,936,883	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.591%	7,283,335	13,677,117	5,427,367	-	5,427,367
2012	46,953,000	43,048,574	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.172%	11,150,508	9,712,125	3,853,975	-	3,853,975
2013	48,963,000	33,589,539	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.787%	11,805,586	5,598,688	2,221,677	-	2,221,677
2014	49,956,000	22,835,874	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.382%	12,317,046	22,003,607	8,731,493	-	8,731,493
2015	50,361,000	15,704,581	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	25.947%	8,658,130	31,731,567	-	13,434,257	13,434,257
2016	51,024,000	20,381,646	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.523%	4,066,527	36,888,371	-	15,617,503	15,617,503
2017	51,135,000	30,283,708	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	27.081%	2,698,499	23,348,498	-	9,885,100	9,885,100
2018	52,359,000	42,705,108	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.645%	7,073,792	2,823,166	-	1,195,250	1,195,250
2019	53,151,000	48,479,520	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	27.925%	12,505,506	18,273,235	-	7,736,376	7,736,376
2020	54,548,000	43,727,847	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	27.925%	17,095,686	1,902,662	-	805,534	805,534
Total	\$ 723,827,000	\$ 507,719,898	\$ 351,697,526	\$ 364,170,444	\$ 98,688,744	\$ 715,867,970	\$ 814,556,713			\$ 143,549,454	\$ 209,427,986	\$ 37,483,905	\$ 48,674,020	\$ 86,157,925

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
- (3) Power's 10-Year Rolling Average Capital CVP Percentages
- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
- (5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.
Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER AGENCY, ET AL.,

Plaintiffs,

v.

THE UNITED STATES,

Defendant.

Case No. 14-817C

Second Supplemental Expert Report of
Wiley R. Wright, III CPA
November 15, 2021

NORTHERN CALIFORNIA POWER AGENCY, ET AL.

v.

THE UNITED STATES

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VI.	CONCLUSIONS	6

Attachments

Attachment I: Documents, Data or Other Information Considered

Attachment II: Schedules

Schedule 2A: CVPIA Restoration Fund Commercial Power Damages Assessment – No Lag, Croffset Allocation Scenarios

Schedule 2B: CVPIA Restoration Fund Commercial Power Damages Assessment – No Lag, Interim CAS Update

Schedule 4A: CVPIA Restoration Fund Commercial Power Damages Assessment – 2-Year Lag, Croffset Allocation Scenarios

Schedule 4B: CVPIA Restoration Fund Commercial Power Damages Assessment – 2-Year Lag, Interim CAS Update

Attachment III: Comparison Graphs

Comparison 1: Damages – No Lag

Comparison 2: Damages – 2-Year Lag

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I. INTRODUCTION AND SCOPE OF WORK

1. My name is Wiley R. Wright, III. I have been retained by the plaintiffs in this case—Northern California Power Agency (NCPA) and the Cities of Redding, Roseville, and Santa Clara, California—to provide my opinions concerning the methods and data to use to compute damages in this case. I also have been asked to perform and present the necessary damage calculations.
2. For my analysis and testimony, I will be compensated at my usual hourly rate of \$350.
3. The Cities of Redding, Roseville, and Santa Clara are members of NCPA, and in this report I refer to the plaintiffs collectively as NCPA.
4. I issued an affirmative report in this matter on August 12, 2021 that set forth my opinions regarding the methods and data used to compute damages in this case, presented my calculation of damages and included a discussion of the Central Valley Project, the Central Valley Project Improvement Act, and the issues in the current litigation (affirmative report). In the affirmative report, I calculated damages using the historically applicable proportionality percentages set forth in a joint trial exhibit already in evidence and corresponding percentages produced in discovery for later years. As a check, I also calculated damages using proportionality percentages I derived directly from annual cost allocation spreadsheets that the Bureau prepared during the damages period.
5. After issuing my affirmative report, I discovered a formula error in the alternative damages calculation models. On September 10, 2021, I issued a supplemental report that corrected the damages amounts using the alternative method set forth in my affirmative report.
6. In my August 12 and September 10 reports, I computed the alternative damages amount using proportionality percentages derived from two series of spreadsheets produced by the Government in discovery. In this second supplemental report, I am providing two additional sets of alternative damages calculations as a further check on the damages amounts I calculated using proportionality percentages from Joint Exhibit 2 and Interrogatory 25.
7. These further calculations do not change—in fact, they reinforce—my recommended damages award based on the proportionality percentages shown in Joint Exhibit 2 and the defendant's response to plaintiffs' interrogatory 25. As shown below, the supplemental alternative damages calculations are not materially different from each other, from my corrected alternative

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calculation, or from the damages calculated using the percentages from Joint Exhibit 2 and the response to Interrogatory 25. This provides further support that the estimates based on Joint Exhibit 2 and Interrogatory 25 are reasonable.

II. EXPERT QUALIFICATIONS AND PREVIOUS TESTIMONY

8. My qualifications and experience, including a copy of my resume, were addressed and included in my affirmative report.
9. I am responsible for the services performed and the opinions given herein and have personally rendered or reviewed the analysis performed by the members of our staff with respect to them. Use of the words “I”, “my”, “we”, and “our” throughout this report means myself and the BDO professionals working under my direction and supervision.
10. All work performed by BDO was completed in accordance with the American Institute of Certified Public Accountants (AICPA) Statement on Standards for Forensic Services.¹ These standards require, in part, that the practitioner obtain sufficient relevant data to afford a reasonable basis for conclusions or recommendations in relation to any professional services provided. I have done so for the work performed and opinions expressed herein.
11. The documents, data and information that I considered in performing my analysis are the types of documents, data and information that experts in my field typically consider and rely upon in performing similar damages engagements.

III. SUMMARY OF OPINIONS

12. In this report, I provide additional alternative damages calculations as a further check on my recommended damages award, which is based on proportionality percentages set forth in Joint Exhibit 2 and the defendant’s response to plaintiffs’ interrogatory 25. These additional calculations use percentages I derived from Excel workbooks produced by the defendant in discovery. My earlier alternative calculations used percentages derived from one set of workbooks for certain years and percentages derived from the other set for other years. Each

¹ Statement on Standards for Forensic Services (SSFS) No. 1 (FS sec. 100).

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set of additional calculations provided here uses percentages derived from a single set of workbooks.

13. The additional alternative damage estimates provided here do not differ materially from each other, from my earlier alternative calculation, or from my damage estimates based on Joint Exhibit 2 and the response to Interrogatory 25.
14. After considering the results of all these analyses, I continue to recommend that damages be calculated using proportionality percentages from Joint Exhibit 2 and Interrogatory 25, as set forth in my earlier reports.

IV. BASES FOR OPINIONS

15. As I explained in my August 12, 2021 affirmative report, this is an overcharge case. Under the Central Valley Project Improvement Act (CVPIA), the United States imposes charges—called “mitigation and restoration” (M&R) payments—on contractors that receive water or electric power from the Central Valley Project (CVP or Project). The CVPIA requires that, to the greatest degree practicable, M&R charges be collected from water and power contractors in the same proportion measured over a ten-year rolling average as their respective allocations of responsibility to repay CVP costs. The United States, however, did not abide by that limitation and instead imposed disproportionate charges upon the plaintiffs and other power contractors. In my affirmative report, I quantified the proportionate amounts that the United States should have charged plaintiffs during the relevant period and the disproportionate excess that it actually charged them, which the Government should pay as damages.
16. In my affirmative report, I calculated what the United States should have charged by using the proportionality percentages set forth in Joint Exhibit 2—an exhibit the parties jointly sponsored during the 2018 trial to show the ten-year rolling average of water and power contractors’ repayment allocations through FY 2015. See Jan. 17, 2018 Tr. at 322:23–323:12. For later years, I used percentages provided by the Government in response to plaintiffs’ interrogatory 25, which asked the Government for percentages calculated on the same basis as Joint

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Exhibit 2 covering the ten-year periods fiscal year (FY) 2007–2016 through FY 2011–2020.²

I explained that these percentages reflected the cost allocations actually in effect during the damages period, and were the least speculative percentages to use in calculating damages.

17. As a check, I also performed damages calculations using proportionality percentages I derived directly from CVP cost allocation spreadsheets that the Government prepared annually during the damages period. *See* paragraphs 63–67 & schedules 2 and 4 of my August 12, 2021 affirmative report. Using these percentages, Schedule 2 compared plaintiffs’ actual payments to what they would have been had power’s M&R payment been proportional to water’s CVPIA payments for the same year. Schedule 4 estimated damages as if power’s M&R payments had been proportional to water’s CVPIA payments two years earlier.
18. Subsequent to the issuance of my affirmative report of August 12, 2021, I noted an error in the calculations and resulting damages estimate based on these then-contemporaneous annual spreadsheets. In my September 10 supplemental report, I corrected those errors and amended versions of Schedules 2 and 4 reflecting my corrected calculations. I explained that Schedules 1 and 3, based on Joint Exhibit 2 and Interrogatory 25, remained unchanged and continued to represent my opinion about the damages the defendant owes using proportionality percentages from Joint Exhibit 2 and Interrogatory 25.
19. Both my August 12 and September 10 reports computed the alternative damages amount using proportionality percentages derived from two series of spreadsheets produced by the Government in discovery. As explained in paragraphs 64 and 65 of my August 12 report, I used the crosstabs spreadsheet series (GOV00041300-GOV0004153) for the years up to and including FY 2015 and for FY 2019. For FYs 2016 through 2018, I used corresponding data from another spreadsheet series produced by the Government (GOV0001074-GOV0001098). I used the second series for 2016 through 2018 because the Government—in its response to plaintiffs’ request number 6–4 for the production of documents—identified those workbooks as the source data for its response to interrogatory number 25.

² As explained in my August 12, 2021 affirmative report, the Government provided data through FYs 2010–2019, and asserted that cost allocation data for FY 2020 was not yet available. In my damage calculations, when proportionality percentages for FY 2020 were required, I held the percentages constant from FY 2019 to FY 2020.

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20. In this second supplemental report, I am providing two additional sets of alternative damages calculations as a further check on the damages amounts I calculated using proportionality percentages from Joint Exhibit 2 and Interrogatory 25. Like my earlier alternative calculations, these further calculations are based on the annual spreadsheets that the Government prepared during the damages period and produced in discovery. They differ from my earlier alternative calculations in that each uses proportionality percentages derived from only a single set of workbooks showing the historical allocations.
21. Attachment II to this report includes an Excel workbook that sets forth my estimated damages calculations based on proportionality percentages from the CVPIA Croffset Allocation Scenarios (*See* Schedule 2A) and from the Annual Update of Interim Plant in Service Cost Allocation Studies (*See* Schedule 2B). Each of these estimates is based on calculating power mitigation and restoration payments proportional to water contractor CVPIA payments for the same year (no lag method). The results are:

No lag

Damages computed using CVPIA Croffset Allocation Scenarios	Damages computed using Annual Update of Interim Cost Allocation Study
\$82,598,260	\$81,974,066

22. The foregoing summary shows that none of the alternative no lag calculations are materially different from each other or from the damages estimate based on Joint Exhibit 2 and Interrogatory 25 as presented in Schedule 1 to my affirmative report of August 12, 2021³.
23. Attachment II to this report also includes an Excel workbook that sets forth corresponding analyses based on calculating power M&R payments proportional to water contractor CVPIA payments two years earlier (two-year lag method). The results of those analyses are:

Two-year lag

Damages computed using CVPIA Croffset Allocation Scenarios (Schedule 4A)	Damages computed using Annual Update of Interim Cost Allocation Study (Schedule 4B)
\$86,344,548	\$86,162,609

³ Damages computed on a no lag basis based on Joint Exhibit 2 and Interrogatory No. 25 : \$81,872,385.

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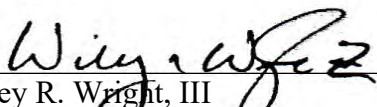
24. This summary shows that none of the alternative two-year lag calculations are materially different from each other or from the corresponding damages estimate based on Joint Exhibit 2 and Interrogatory 25 as presented in Schedule 3 to my affirmative report of August 12, 2021⁴.
25. Attachment III to this report demonstrates graphically the minimal variation between the damages calculations presented in my affirmative and supplemental reports and the alternative calculations presented in this second supplemental report.

V. DOCUMENTS, DATA OR OTHER INFORMATION CONSIDERED

26. The list of documents, data or other information I considered in conjunction with this report can be found in Attachment I.

VI. CONCLUSIONS

27. Based on these analyses, I continue to recommend damages computed using the no lag method and based on the proportionality percentages provided by the Government in Joint Exhibit 2 and its response to Interrogatory 25.
28. The conclusions set forth in my previous reports remain unchanged.



Wiley R. Wright, III
Senior Managing Director

November 15, 2021
Date

⁴ Damages computed on a two-year lag basis based on Joint Exhibit 2 and Interrogatory No. 25: \$85,990,156.

ATTACHMENT I

Documents, Data or Other Information Considered

DOCUMENTS, DATA OR OTHER INFORMATION CONSIDERED

1. Supplemental Expert Disclosure – Dr. William Taylor
2. Supplemental Expert Disclosure – Mr. Steve Pavich
3. All documents, data, or other information identified in Attachment II to my affirmative report, and Attachment I to my supplemental report of September 10, 2021

ATTACHMENTS II

Schedules

Schedule 2A														
CVPIA Restoration Fund Commercial Power Damages Assessment - No Lag, Croffset Allocation Scenarios														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	41,909,000	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.715%	11,479,271				
2007	42,885,000	37,316,164	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.052%	9,820,998				
2008	43,938,000	27,362,327	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	22.351%	7,459,551	19,551,537	7,758,460	-	7,758,460
2009	45,306,000	25,432,246	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.644%	7,283,335	27,252,754	10,814,465	-	10,814,465
2010	45,567,000	37,305,703	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.020%	11,150,508	(468,914)	(186,075)	-	(186,075)
2011	46,467,000	40,459,134	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.591%	11,805,586	9,154,866	3,632,843	-	3,632,843
2012	46,953,000	44,215,113	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.172%	12,317,046	8,545,587	3,391,068	-	3,391,068
2013	48,963,000	30,442,083	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.787%	8,658,130	8,746,144	3,470,653	-	3,470,653
2014	49,956,000	14,585,355	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.382%	4,066,527	30,254,126	12,005,472	-	12,005,472
2015	50,361,000	9,744,950	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	25.947%	2,698,499	37,691,198	-	15,957,398	15,957,398
2016	51,024,000	23,363,483	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.453%	7,048,364	33,906,534	-	14,355,077	14,355,077
2017	51,135,000	39,996,100	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	26.932%	12,410,891	13,636,106	-	5,773,145	5,773,145
2018	52,359,000	52,406,243	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.268%	16,774,927	(6,877,969)	-	(2,911,939)	(2,911,939)
2019	53,151,000	53,071,491	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	27.552%	17,097,476	13,681,265	-	5,792,264	5,792,264
2020	54,548,000	39,145,840	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	27.552%	12,513,679	6,484,669	-	2,745,427	2,745,427
Total	\$ 723,827,000	\$ 516,755,232	\$ 351,697,526	\$ 364,170,443	\$ 98,688,743	\$ 715,867,970	\$ 814,556,713			\$ 152,584,789	\$ 201,557,901	\$ 40,886,888	\$ 41,711,372	\$ 82,598,260

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
- (3) Power's 10-Year Rolling Average Capital CVP Percentages
- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
- (5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.
Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002.
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

Schedule 2B														
CVPIA Restoration Fund Commercial Power Damages Assessment - No Lag, Interim CAS Update														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	41,884,305	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.679%	11,454,576				
2007	42,885,000	37,295,231	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.015%	9,800,065				
2008	43,938,000	27,346,716	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	22.314%	7,443,940	19,567,148	7,764,655	-	7,764,655
2009	45,306,000	25,417,264	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.608%	7,268,353	27,267,736	10,820,410	-	10,820,410
2010	45,567,000	37,283,195	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	22.985%	11,128,000	(446,406)	(177,143)	-	(177,143)
2011	46,467,000	40,459,134	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.591%	11,805,586	9,154,866	3,632,843	-	3,632,843
2012	46,953,000	44,215,113	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.172%	12,317,046	8,545,587	3,391,068	-	3,391,068
2013	48,963,000	30,442,083	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.787%	8,658,130	8,746,144	3,470,653	-	3,470,653
2014	49,956,000	14,587,514	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.392%	4,068,686	30,251,967	12,004,616	-	12,004,616
2015	50,361,000	9,750,912	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	25.990%	2,704,461	37,685,236	-	15,954,874	15,954,874
2016	51,024,000	23,403,862	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.564%	7,088,743	33,866,155	-	14,337,982	14,337,982
2017	51,135,000	40,116,030	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	27.121%	12,530,821	13,516,176	-	5,722,370	5,722,370
2018	52,359,000	52,760,087	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.684%	17,128,771	(7,231,813)	-	(3,061,747)	(3,061,747)
2019	53,151,000	53,649,997	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	28.221%	17,675,982	13,102,759	-	5,547,341	5,547,341
2020	54,548,000	39,569,305	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	28.221%	12,937,144	6,061,204	-	2,566,144	2,566,144
Total	<u>\$ 723,827,000</u>	<u>\$ 518,180,750</u>	<u>\$ 351,697,526</u>	<u>\$ 364,170,443</u>	<u>\$ 98,688,743</u>	<u>\$ 715,867,970</u>	<u>\$ 814,556,713</u>			<u>\$ 154,010,307</u>	<u>\$ 200,086,756</u>	<u>\$ 40,907,103</u>	<u>\$ 41,066,963</u>	<u>\$ 81,974,066</u>

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
- (3) Power's 10-Year Rolling Average Capital CVP Percentages
- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
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Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002.
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

Schedule 4A														
CVPIA Restoration Fund Commercial Power Damages Assessment- 2 Year Lag, Croffset Allocation Scenarios														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	39,809,669	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.715%	9,379,939				
2007	42,885,000	38,250,246	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.052%	10,755,080				
2008	43,938,000	31,382,047	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	22.351%	11,479,271	15,531,817	6,163,351	-	6,163,351
2009	45,306,000	27,969,909	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.644%	9,820,998	24,715,091	9,807,467	-	9,807,467
2010	45,567,000	33,614,746	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.020%	7,459,551	3,222,043	1,278,574	-	1,278,574
2011	46,467,000	35,936,883	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.591%	7,283,335	13,677,117	5,427,367	-	5,427,367
2012	46,953,000	43,048,574	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.172%	11,150,508	9,712,125	3,853,975	-	3,853,975
2013	48,963,000	33,589,539	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.787%	11,805,586	5,598,688	2,221,677	-	2,221,677
2014	49,956,000	22,835,874	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.382%	12,317,046	22,003,607	8,731,493	-	8,731,493
2015	50,361,000	15,704,581	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	25.947%	8,658,130	31,731,567	-	13,434,257	13,434,257
2016	51,024,000	20,381,646	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.453%	4,066,527	36,888,371	-	15,617,503	15,617,503
2017	51,135,000	30,283,708	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	26.932%	2,698,499	23,348,498	-	9,885,100	9,885,100
2018	52,359,000	42,679,680	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.268%	7,048,364	2,848,594	-	1,206,015	1,206,015
2019	53,151,000	48,384,905	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	27.552%	12,410,891	18,367,850	-	7,776,433	7,776,433
2020	54,548,000	43,407,088	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	27.552%	16,774,927	2,223,421	-	941,334	941,334
Total	<u>\$ 723,827,000</u>	<u>\$ 507,279,096</u>	<u>\$ 351,697,526</u>	<u>\$ 364,170,444</u>	<u>\$ 98,688,744</u>	<u>\$ 715,867,970</u>	<u>\$ 814,556,713</u>			<u>\$ 143,108,652</u>	<u>\$ 209,868,788</u>	<u>\$ 37,483,905</u>	<u>\$ 48,860,643</u>	<u>\$ 86,344,548</u>

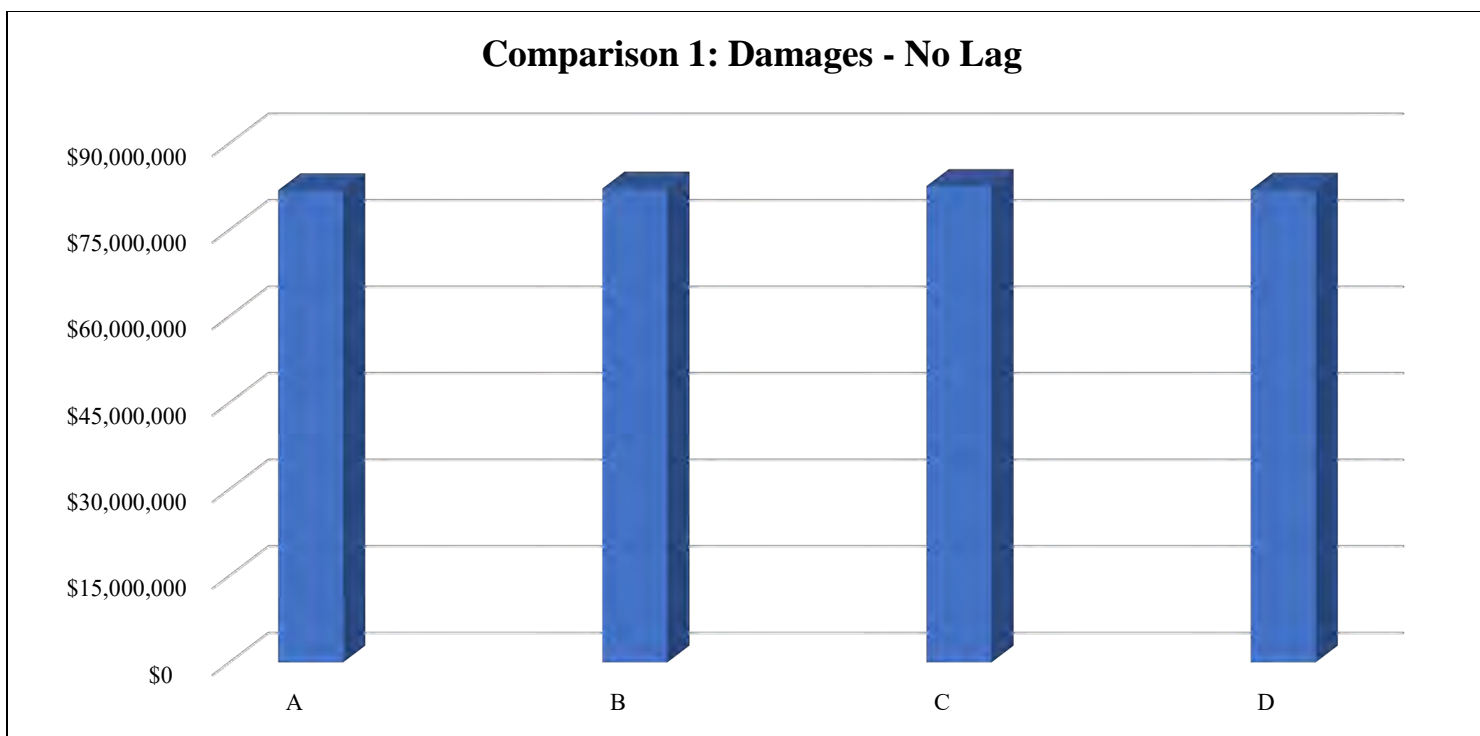
- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
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Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
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- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

Schedule 4B														
CVPIA Restoration Fund Commercial Power Damages Assessment- 2 Year Lag, Interim CAS Update														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	39,809,669	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.679%	9,379,939				
2007	42,885,000	38,250,246	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.015%	10,755,080				
2008	43,938,000	31,357,353	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	22.314%	11,454,576	15,556,511	6,173,150	-	6,173,150
2009	45,306,000	27,948,977	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.608%	9,800,065	24,736,024	9,815,774	-	9,815,774
2010	45,567,000	33,599,135	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	22.985%	7,443,940	3,237,654	1,284,769	-	1,284,769
2011	46,467,000	35,921,900	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.591%	7,268,353	13,692,100	5,433,313	-	5,433,313
2012	46,953,000	43,026,066	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.172%	11,128,000	9,734,633	3,862,907	-	3,862,907
2013	48,963,000	33,589,539	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.787%	11,805,586	5,598,688	2,221,677	-	2,221,677
2014	49,956,000	22,835,874	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.392%	12,317,046	22,003,607	8,731,493	-	8,731,493
2015	50,361,000	15,704,581	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	25.990%	8,658,130	31,731,567	-	13,434,257	13,434,257
2016	51,024,000	20,383,805	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.564%	4,068,686	36,886,212	-	15,616,589	15,616,589
2017	51,135,000	30,289,670	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	27.121%	2,704,461	23,342,535	-	9,882,576	9,882,576
2018	52,359,000	42,720,059	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.684%	7,088,743	2,808,215	-	1,188,919	1,188,919
2019	53,151,000	48,504,835	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	28.221%	12,530,821	18,247,920	-	7,725,659	7,725,659
2020	54,548,000	43,760,932	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	28.221%	17,128,771	1,869,577	-	791,526	791,526
Total	<u>\$ 723,827,000</u>	<u>\$ 507,702,643</u>	<u>\$ 351,697,526</u>	<u>\$ 364,170,444</u>	<u>\$ 98,688,744</u>	<u>\$ 715,867,970</u>	<u>\$ 814,556,713</u>			<u>\$ 143,532,199</u>	<u>\$ 209,445,241</u>	<u>\$ 37,523,083</u>	<u>\$ 48,639,526</u>	<u>\$ 86,162,609</u>

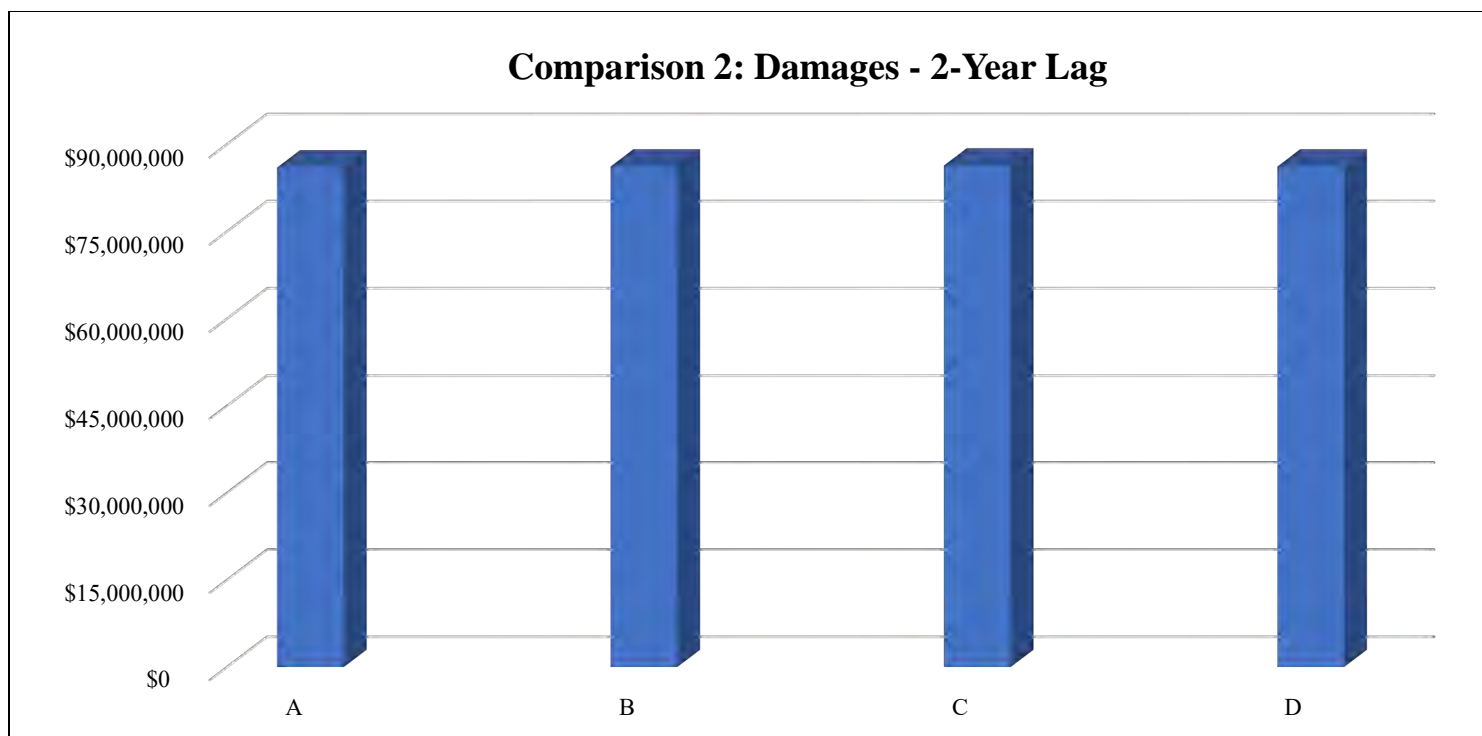
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- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

ATTACHMENT III

Graphs



Legend			
Data Label	Damages Data Sources	Report (Schedule Number)	Damages Amount
A	JX2/Interrogatory No. 25	Affirmative (Sch. 1)	\$ 81,872,385
B	Then Contemporaneous	Supplemental (Amended Sch. 2)	82,176,062
C	Croffset Allocation Scenarios	Second Supplemental (Sch. 2A)	82,598,260
D	Interim CAS Update	Second Supplemental (Sch. 2B)	81,974,066



Legend			
Data Label	Damages Data Sources	Report (Schedule Number)	Damages Amount
A	JX2/Interrogatory No. 25	Affirmative (Sch. 3)	\$ 85,990,156
B	Then Contemporaneous	Supplemental (Amended Sch. 4)	86,157,925
C	Croffset Allocation Scenarios	Second Supplemental (Sch. 4A)	86,344,548
D	Interim CAS Update	Second Supplemental (Sch. 4B)	86,162,609



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WILEY R. WRIGHT, III CPA

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EXPERIENCE

Wiley Wright is a Senior Managing Director and BDO's Practice Leader of the Construction & Environmental Solutions Group. Mr. Wright specializes in providing expert witness and forensic accounting services to governmental agencies, private law firms, construction contractors, and government contractors.

Mr. Wright's work includes change order pricing and reviews, contract compliance reviews, preparation and evaluation of requests for equitable adjustment and/or claims for damages, fraud and false claims investigations, assessing the adequacy of accounting systems and indirect cost rate methodologies of governmental agencies, piercing the corporate veil analysis, lost profit damages expert testimony on specific damage and cost accounting issues, accounting system design and review, cost allowability and allocability determinations under federal cost principles, defective pricing reviews, contract termination pricing assistance, Qui Tam matters financial and accounting analysis, and forensic accounting investigations.

Mr. Wright has testified as an expert witness before numerous state and Federal courts, Boards of Contract Appeals, in domestic and international arbitration, and has participated in numerous mediations. Mr. Wright has provided expert testimony in over one hundred fifty matters.

In addition to his litigation and expert witness services, Mr. Wright has over forty years of experience consulting on construction and government contract matters. With respect to construction projects, Mr. Wright has significant experience with: Airports, Oil and Gas Facilities and Pipelines, Bridges and Tunnels, Industrial Facilities, Power Plants, Military and Commercial Launch Facilities, Waste Water Treatment Facilities, Jails and Prisons, Stadiums, Aqueducts, Subway and Transit, and Highways and Roads. Mr. Wright was a Partner with mid-sized public accounting firms in the Washington, DC area prior to BDO and was involved in providing audit, tax, and consulting services to clients in a variety of industries, including a heavy concentration in the government contracts and construction industries. He was responsible for performing and supervising audits, financial statement presentation, internal control reviews, and interaction with regulatory agency auditors.



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Practice Leader - Construction & Environmental Solutions

Mr. Wright co-authored a chapter entitled "Damages in Construction Arbitrations" included in Global Arbitration Review's 2016 book *The Guide to Damages in International Arbitration*. Mr. Wright also co-authored a chapter entitled "Types of Financial Reports and Opinions Issued by CPAs and Applicable Professional Standards" included in the 2010 book published by the American Bar Association - Forum on the Construction Industry titled *Construction Accounting - A Guide for Attorneys and Other Professionals*. Mr. Wright coauthored an article published in the Maryland Association of Certified Public Accountants' *CPA Statement* entitled "Professional Standards Applicable to Litigation Support."

He has taught courses and given presentations on financial and economic damages before a variety of professional groups, including the Colorado Society of Certified Public Accountants, the American Bar Association and the Virginia Bar Association.

Mr. Wright is a CPA and is a graduate of George Mason University.

LISTING OF EXPERT TESTIMONY

PLAINTIFF	DEFENDANT	FORUM
<i>United States of America</i>	Charles George Trucking Co., et al	United States District Court for the District of Massachusetts
AWM Enterprises, Inc.	<i>Noell, Inc.</i>	Fairfax County, VA, Circuit Court
<i>United States of America</i>	Scott's Liquid Gold	United States District Court, Colorado



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PLAINTIFF	DEFENDANT	FORUM
<i>United States of America</i>	Broderick Investment Company, Tom H. Connolly, as Trustee, and Burlington Northern Railroad Company	United States District Court for the District of Colorado
<i>United States of America</i>	Atlantic Richfield Company	Alternative Dispute Resolution
<i>United States of America</i>	Atlantic Richfield Company	United States District Court for the Eastern District of Texas
<i>Aerojet-General Corp</i>	United States Air Force	Armed Services Board of Contract Appeals
<i>United States of America</i>	Salvors, Inc., <i>et al</i>	United States District Court, Florida
<i>Noell, Inc.</i>	Los Angeles Department of Water and Power	Superior Court of California
W.R. Mollohan, Inc., <u>et al</u>	Fru-Con Construction Corp. <i>et al</i>	United States District Court, West Virginia
<i>United States of America</i>	Findett Corporation	United States District Court, Missouri
<i>United States of America</i>	DICO, Inc.	United States District Court, Missouri
Golden Bay Fence Co.	<i>Ray Wilson Co</i>	Superior Court of California, American Arbitration Association
Joe Amaral Mechanical	<i>Clark Construction</i>	United States District Court, Northern District of California
<i>Dillingham Construction</i>	County of Los Angeles	Superior Court of California
<i>United States of America</i>	ASARCO, Inc.	United States District Court, Idaho



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PLAINTIFF	DEFENDANT	FORUM
<i>United States of America</i>	Montrose Chemical Co.	United States District Court, California
<i>United States of America and the State of Colorado</i>	Robert M. Friedland, et al.	United States District Court, District of Colorado
<i>United States of America</i>	Chrysler Corporation, Ford Motor Company, et al.	United States District Court, Northern District of Ohio
E.I. Dupont	<i>United States of America</i>	United States District Court, New Jersey
<i>United States of America</i>	Tug ALLIE B, et al.	United States District Court, Southern District of Florida
<i>United States of America</i>	Sprague Energy, et al.	United States District Court, North Carolina
Kiewit Construction	<i>United States of America</i>	United States Court of Federal Claims
<i>United States of America</i>	Gurley Refining Co.	United States District Court, Arkansas
<i>United States of America</i>	W.R. Grace, et al	United States District Court, Montana
Miami Dade County	<i>United States of America</i>	United States District Court, Florida
Information Systems & Networks Corporation	<i>United States of America</i>	United States Federal Court of Claims
U.S.F.G.	<i>Dick Barton Malow, et al.</i>	United States District Court, District of Columbia
Carol AuClair	<i>Anteon Corporation</i>	Fairfax County, Virginia Circuit Court
<i>United States of America</i>	Mallinckrodt Inc., et al	United States District Court, District of Missouri
<i>United States of America</i>	ASARCO, Inc	United States District Court, Idaho



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PLAINTIFF	DEFENDANT	FORUM
Morrison Knudson International, Inc./ Contrak International, Inc. J.V.	<i>National Organization for Potable Water and Sanitary Drainage</i>	International Commercial Arbitration
Hewlett Packard	Telecom Egypt	International Commercial Arbitration
Lighthouse Electric, Inc.	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
Kirby Electric, Inc.	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
W.G. Tomko, Inc.	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
C&M Contracting, Inc.	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
Oldcastle Precast, Inc.	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
Macgregor Industries	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
<i>United States of America</i>	Jay James Jackson, et al.	United States District Court, District of Nebraska
<i>Jackson 2000 LLC, et al.</i>	American Geotech, Inc., et al.	United States District Court, Southern District of Ohio - Eastern Division
<i>United States of America</i>	RSR Corporation, et al.	United States District Court, Washington
<i>United States of America</i>	Dominick Manzo, et al.	United States District Court for the District of New Jersey
<i>East Coast Glass Systems</i>	Pohl, Inc.	United States District Court, Eastern District of Virginia
Gates of McLean Condominium	<i>Gates of McLean Development, LLC</i>	Circuit Court of Fairfax County



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PLAINTIFF	DEFENDANT	FORUM
Basic Management, Inc.	<i>United States of America</i>	United States District Court, District of Nevada
<i>United States of America</i>	Newmont USA Limited and Dawn Mining Company, LLC	United States District Court, Eastern District of Washington
Clairton Slag, Inc.	<i>Commonwealth of Pennsylvania, Department of General Services</i>	Board of Claims, Commonwealth of Pennsylvania
Lumbermens Mutual Casualty	<i>United States of America</i>	United States of Court of Federal Claims
<i>Sierra Club, et al., and United States of America</i>	MasTec North America	United States District Court District of Oregon
Raytheon Aircraft Company	<i>United States of America</i>	United States District Court, District of Kansas at Kansas City
PEC	<i>Commonwealth of Pennsylvania, Department of General Services</i>	Board of Claims, Commonwealth of Pennsylvania
<i>Eisenhower Residential, L.P., et al.</i>	Hoffman Family, L.L.C., et al.	Circuit Court for the City of Alexandria, Virginia
<i>Maryland Economic Development Corporation</i>	Place/Structures, LLC et al.	Circuit Court for Prince Georges County, Maryland
Travelers Casualty and Surety Company, as Administrator for Reliance Insurance Company	<i>Dormitory Authority - State of New York, TDX Construction, Corp. and Kohn Pederson Fox Associates, P.C.</i>	United States District Court Southern District of New York
L.K. Comstock & Company, Inc.	<i>Thales Transport & Security Inc.</i>	United States District Court Eastern District of New York
<i>The Mayor and Council of Rockville, Maryland</i>	Macris, Hendricks & Glascock, P.A.	Circuit Court for Montgomery County, Maryland
Data Computer Corporation of America	<i>United States of America</i>	United States Court of Federal Claims



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PLAINTIFF	DEFENDANT	FORUM
<i>United States of America</i>	Sunoco, Inc.	US District Court Eastern District of Pennsylvania
TDY Holdings, LLC and TDY Industries, Inc.	<i>United States of America, United States Department of Defense and Robert M. Gates in his official capacity as Secretary of Defense</i>	United States District Court Southern District of California
<i>RSC Tower I, LLC, et al</i>	Camalier Limited Partnership	Circuit Court for Circuit Court for Montgomery County, Maryland
SM Electric	<i>Stone & Webster Constructing, Inc.</i>	American Arbitration Association
<i>Environment International Ltd.</i>	Chemonics International	Arbitration
<i>Evansville Greenway and Remediation Trust</i>	Southern Indiana Gas and Electric Company, Inc. et al., and General Waste Products et al.	United States District Court Southern District of Indiana Evansville Division
<i>United States of America</i>	General Electric Company	United States District Court for the District of New Hampshire
<i>American Bridge Co./Edward Kraemer & Sons, Inc. Joint Venture</i>	PDM Bridge, LLC	American Arbitration Association
<i>Samuel Ecker</i>	Chugach McKinley, Inc., Lorton Contracting Co.Inc. and Samuel Hernandez	Circuit Court for Montgomery County, Maryland
<i>United States of America</i>	Washington State Department of Transportation	United States District Court, Western District of Washington
<i>New York University Hospitals Center</i>	HRH Construction LLC	U.S. Bankruptcy Court, Southern District of New York Adv. Pro. No. 10-0824 (SHL)



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PLAINTIFF	DEFENDANT	FORUM
Nu-West Mining, Inc. and Nu-West Industries, Inc.	<i>United States of America</i>	United States District Court District of Idaho
<i>United States of America and California Department of Toxic Substances Control</i>	Sterling Centrecorp, Inc. Stephen P. Elder, and Elder Development, Inc.	United States District Court Eastern District of California
RD Rockville, LLC RD Rockville Garage, LLC	<i>The Mayor and Council of Rockville</i>	Circuit Court for Montgomery County, Maryland
Horn & Associates, Inc	<i>United States of America</i>	United States Court of Federal Claims
<i>United States of America</i>	Federal Resources Corporation; Blum Real Estate Trust; and Bentley J. Blum in his capacity as Trustee of the Blum Real Estate Trust	United States District Court of Idaho
LCM Energy Solutions	<i>United States of America</i>	United States Court of Federal Claims Case No. 1:12-CV-321-TCW
Lockheed Martin Corp.	<i>United States of America</i>	United States District Court for the District of Columbia Case No. 1:08-CV-01160- ESH
HCLUB Investors	<i>Parc Vendome Condominiums</i>	JAMS Arbitration
<i>American Bridge Company</i>	Commonwealth of Virginia - Virginia Department of Transportation	In The Circuit Court For The County of Accomack, Virginia No. 13CL341
<i>United States of America</i>	Emhart Industries, Inc., et al.	United States District Court for the District of Rhode Island Case No. 11-023S



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PLAINTIFF	DEFENDANT	FORUM
<i>South Carolina Electric & Gas Company</i>	Consortium of Westinghouse Electric Company LLC and Stone & Webster, Inc.	V.C. Summer Dispute Review Board Dispute No. 001-2016
<i>United States of America and the State of Wisconsin</i>	NCR Corporation, et al.	United States District Court for the Eastern District of Wisconsin Green Bay Division
Montgomery County, Maryland et al.	<i>Parsons Brinckerhoff</i> , et al.	Circuit Court for Montgomery County, Maryland
State of Alaska and City of North Pole (Consolidated Plaintiffs)	Williams Alaska Petroleum, Inc., The Williams Companies, Inc., <i>Flint Hills Resources Alaska, LLC</i> , and <i>Flint Hills Resources, LLC</i> .	Superior Court for the State of Alaska, Fourth Judicial District at Fairbanks
Maintenance Enterprises, LLC	<i>Orascom E&C USA Inc.</i>	International Chamber of Commerce – International Court of Arbitration
PPG Industries, Inc.	<i>United States of America</i> , et al.	United States District Court for the District of New Jersey
<i>United States of America</i>	CMS Energy Corporation, et al.	United States District Court for the Western District of Michigan
Maintenance Enterprises, LLC	<i>Orascom E&C USA, Inc.</i> and Iowa Fertilizer Company, LLC	United States District Court for the Southern District of Iowa Davenport Division
City of Lincoln	<i>United States of America</i> , <i>United States Department of the Air Force</i> , <i>United States General Services Administration</i> , and <i>Does 1 through 100</i>	United States District Court for the Eastern District of California



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PLAINTIFF	DEFENDANT	FORUM
<i>SNC-Lavalin Inc.</i>	Saskatchewan Power Corporation	Arbitration (Canada)
<i>Manolis Painting, Inc.</i>	Maryland State Highway Administration	Maryland State Board of Contract Appeals
Mid-Atlantic Arena, LLC	<i>City of Virginia Beach</i>	Circuit Court of the City of Virginia Beach
<i>O'Connor Corporation</i>	Iberdrola Energy Projects, Inc.	American Arbitration Association - International Centre for Dispute Resolution
<i>United States of America</i>	Dayton Industrial Drum, Inc. and Sunoco, Inc.	United States District Court for the Southern District of Ohio Western Division
ECC International, LLC	<i>U.S. Army Corps of Engineers</i>	Armed Services Board of Contract Appeals
<i>United States of America</i>	Land O'Lakes, Inc. and Cushing Oklahoma Brownfields, LLC	United States District Court for the Western District of Oklahoma
<i>Yuanda Canada Enterprises LTD.</i>	Walsh Construction/Bondfield Partnership, Walsh Construction Company Canada, Bondfield Construction Company Limited and Women's College Hospital	Ontario Superior Court of Justice
<i>United States of America and State of California</i>	Montrose Chemical Corp. of California, et al.	United States District Court Central District of California, Western Division
Philips Lighting North America Corporation	<i>Washington Metropolitan Area Transit Authority</i>	Armed Services Board of Contract Appeals
<i>United States of America</i>	United Park City Mines Company	United States District Court for the District of Utah Central Division



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PLAINTIFF	DEFENDANT	FORUM
Costello Construction of Maryland, Inc.	<i>BoPat Electric Co., Inc.</i>	Circuit Court for Howard County, Maryland
<i>ACC Construction - McKnight Joint Venture, Inc.</i>	United States Department of State	United States Civilian Board of Contract Appeals
TC Rich, LLC, Rifle Freight, Inc., Fleischer Customs Brokers, Richard G. Fleischer, and Jacqueline Fleischer	<i>Hussain M. Shaikh</i> , Haroon Khan, and Shah Chemical Corporation	United States District Court Central District of California
<i>K&K Adams, Inc.</i>	Maryland Stadium Authority	Circuit Court for Baltimore City, Maryland
Friends of Riverside Airport, LLC	Department of the Army, <i>Rohr, Inc.</i> , Anza Realty Company, Lear Siegler, Inc., <i>City of Riverside</i> , et al	United States District Court Central District of California, Western Division
Refinería de Cartagena S.A.	<i>Chicago Bridge & Iron Company N.V., CB&I UK Limited and CBI Colombiana S.A.</i>	International Court of Arbitration, International Chamber of Commerce
Atlantic Downtown Dallas Venture LLC and Atlantic Hotel Construction, Inc.	<i>Schindler Elevator Corp.</i> and Shahzay Construction, Inc.	District Court for the 162 nd Judicial District - Dallas County, Texas
<i>Northern California Power Agency, et al.</i>	The United States	United States Court of Federal Claims
Mass Electric Construction Co., Inc.	<i>LMH-Lane Cabot Yard Joint Venture, et al.</i>	American Arbitration Association

Italics indicate client in the matter



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PROFESSIONAL AFFILIATIONS

- ▶ American Bar Association
- ▶ American Institute of Certified Public Accountants (AICPA)
- ▶ Association of Certified Fraud Examiners
- ▶ Construction Management Association of America
- ▶ National Contract Management Association
- ▶ National Association of Forensic Economics
- ▶ Society of Construction Law - North America, Board Member
- ▶ Virginia Society of Certified Public Accountants

EDUCATION

B.S., Business Administration, George Mason University

GAO

Report to the Chairman, Subcommittee
on Water, Power and Offshore Energy
Resources, Committee on Interior and
Insular Affairs, House of Representatives

March 1992

BUREAU OF RECLAMATION

Central Valley Project Cost Allocation Overdue and New Method Needed



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**United States
General Accounting Office
Washington, D.C. 20548**

**Resources, Community, and
Economic Development Division**

B-246507

March 31, 1992

**The Honorable George Miller
Chairman, Subcommittee on Water, Power
and Offshore Energy Resources
Committee on Interior and Insular Affairs
House of Representatives**

Dear Mr. Chairman:

This report responds to your request that we examine how the Department of the Interior's Bureau of Reclamation allocates construction costs for the Central Valley Project (CVP). The CVP, located in California's Central Valley Basin, is the Bureau's largest water resource project, with authorized construction costs totaling \$6.55 billion as of September 30, 1990. Initially authorized by the Congress under the Rivers and Harbors Act of 1935, construction of the CVP continues today, with over \$2.85 billion spent on facilities that are completed and in service. The CVP supplies water for irrigation—about 85 percent is currently used for this purpose. Other purposes include municipal and industrial (M&I) use, hydroelectric power generation, flood control, recreation, and fish and wildlife conservation.

Reclamation law provides that the federal government recoup a portion of its investment by requiring project beneficiaries to reimburse the government for certain costs associated with irrigation, M&I use, and power; the costs for the other purposes generally are not reimbursed. In addition, the costs for some reimbursable purposes are repaid with interest, while costs for others are not. Through cost allocation, the Bureau (1) identifies and charges all CVP costs specifically associated with meeting an individual project purpose to that purpose and (2) distributes costs jointly shared by several project purposes among these purposes. The specific and joint costs thus allocated to each purpose help determine the rates charged to irrigators, M&I water users, and power users. The timeliness and appropriateness of the methodology used by the Bureau to allocate the CVP's construction costs are critical in determining what portion of the federal government's capital investment will eventually be recouped.

In 1986 the Congress required the Bureau to update its 1975 CVP cost allocation study and reallocate costs among the project purposes by January 1, 1988.

You asked us to (1) discuss the status of the Bureau's efforts to reallocate CVP costs in accordance with the 1986 congressional mandate, (2) describe the Bureau's current cost allocation method, and (3) determine whether the Bureau should adopt another cost allocation method.

Results in Brief

The congressional mandate to implement an updated cost allocation study by January 1988 has not been met. The study is now 4 years overdue because of funding and staffing constraints and the need to address numerous public comments received on a December 1988 draft allocation study.

Accordingly, the Bureau is charging rates to its CVP water users that are based on cost allocation percentages developed in 1970 and updated in 1975. The allocation method used to develop these percentages was recommended in 1950 by the Inter-Agency River Basin Committee, composed of representatives from various federal agencies, and relies on estimates of the benefits attributed to each purpose and the costs of alternatives that would achieve the same purpose. At least 17 years have passed since the percentages currently used were calculated. Because the current values of benefits and alternative costs for each purpose are very different from those last calculated in 1975, the allocation percentages almost certainly are now outdated.

Public comments received on the 1988 draft allocation study identified numerous problems. According to our analysis, the Bureau's 1988 draft study included inappropriate costs, was based on highly questionable assumptions, and often required data that are unavailable or difficult to obtain. These problems indicate that the Bureau's methodology is difficult to implement.

The delays in updating the cost allocation percentages could have significant financial consequences for the federal government. If the costs currently allocated to reimbursable purposes are understated, the federal government ultimately will recoup less of its capital investment because the value of the dollars received years late will be less than if these dollars had been received on time. Conversely, if such costs currently are overstated, future rates can be adjusted downward so that users do not pay more than they owe.

We discussed with Bureau officials two alternative cost allocation approaches that are simpler in design. Although the Bureau agreed to

explore the use of our two approaches, it was continuing to update its study with the methodology that we and others, through public comments, questioned. If the Bureau continues to rely on this method, it is likely that the problems we identified with the 1988 draft study will remain, causing additional delay in developing an acceptable cost allocation.

Background

The Bureau of Reclamation plans, constructs, and operates water resource projects to provide water for various purposes in the 17 western states. The Reclamation Project Act of 1939 (43 U.S.C. 485h) requires the Secretary of the Interior to allocate the costs of construction among project purposes to determine what costs will be repaid by project users; however, the Congress has not specified how to distribute these costs.

Despite the repayment requirement, the federal government has not recovered much of its reimbursable costs in the CVP. For example, by the end of fiscal year 1990, after receiving CVP water for over 40 years, M&I water users had effectively paid nothing toward repayment obligations and added over \$59 million in unpaid operation and maintenance costs to the \$468 million in construction costs owed. Similarly, by the end of fiscal year 1990, irrigators had repaid only \$10 million of over \$1 billion in construction costs owed. In both cases, fixed rates established in contracts were not always sufficient to allow full recovery of operation and maintenance costs, and therefore some users were able to defer repayment of federal construction costs. Water districts had entered into 40-year water service contracts with the Secretary of the Interior to receive subsidized water for irrigation under the Reclamation Project Act.¹

However, the 1986 amendments to the CVP's purposes require CVP users to pay their share of the federal investment in the CVP by 2030. The Secretary currently is renewing long-term water service contracts, under the 1956 amendments to the Reclamation Project Act. Interior renewed 11 contracts between May 1989 and February 1991, and over one-quarter of the remaining 227 irrigation contracts will expire over the next 5 years. Under the terms of the renewed contracts, the Bureau can adjust each water district's rates annually to meet the repayment deadline. Environmental and water use problems associated with these contracts are detailed in our report entitled Reclamation Law: Changes Needed Before Water Service Contracts Are Renewed (GAO/RCED-91-175, Aug. 22, 1991). Because of the problems associated with these contracts, we

¹Water delivered at rates that do not cover all costs, such as interest on the federal government's investment in the irrigation component of these water resource projects, is referred to as "subsidized water" because the lost interest is viewed as a subsidy to farmers.

concluded in that report that all contract renewals should be preceded by an analysis of the environmental, economic, and management impacts of renewal.

The Bureau Is Using an Accepted Cost Allocation Methodology

The Bureau currently uses the Separable Costs Remaining Benefits (SCRB) method to allocate CVP costs associated with facilities in service. This method was developed by the Inter-Agency River Basin Committee to equitably distribute costs among project users. The Committee recommended it in 1950 for general use in allocating costs in federal multipurpose projects.

The SCR method is based on the principle that users should not pay more for a purpose than the benefits they receive or more than the cost of the most economical single-purpose alternative that would achieve the same purpose. Therefore, to develop distribution percentages for allocating joint costs, the SCR method relies on estimates of the benefits attributed to each purpose and estimates of the costs of alternatives to each purpose. Appendix I describes the SCR method in more detail.

Cost Allocation Has Not Been Updated

The Bureau's current policy is to complete a major allocation of CVP costs every 10 years to ensure that the allocation is compatible with current use, accomplishments, and benefits. Allocations may be updated in the interim 5 years if necessary. A major cost allocation was to be completed in 1979; however, because of personnel shortages and work that received higher priority, this allocation was never started.

Consequently, the Bureau currently is charging rates to its users in the CVP that are based on the cost allocation percentages it developed in 1970 and updated in 1975. Because the current values of benefits and alternative costs for each purpose are very different from those used in 1970 and 1975, the percentages are almost certainly outdated.

We attempted to verify the percentages used by the Bureau to allocate current costs for facilities-in-service, but documentation to determine how percentages were derived from the 1970 study and the 1975 update was not available. Therefore, Bureau officials could not explain to us the basis for these percentages. Consequently, we could not review the basis for rates currently being charged to irrigators, M&I water users, and power users.

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Updated Cost Allocation Is Overdue

Because of funding and staffing constraints, the Bureau gave limited attention to the congressional mandate for an updated cost allocation before mid-1987, according to Bureau officials in the Mid-Pacific Regional Office. Drafts completed in December 1987 and June 1988 were revised by the Mid-Pacific Regional Office and the Denver headquarters office. The most recent draft was completed in December 1988 and approved by the Denver headquarters office in July 1989.

This draft was released for public review pursuant to notice in the Federal Register in January 1990; comments were received through May of that year. The Bureau currently is addressing those comments.

Significant Problems With the 1988 Study Have Been Identified

In its 1988 draft study, the Bureau used a variation of the SCRB method—the Alternative Justifiable Expenditure (AJE) method. The SCRB method requires the use of data developed during project formulation to identify costs specifically associated with a single project purpose; the AJE method does not. The AJE method was recognized by the Inter-Agency River Basin Committee as an acceptable alternative when original cost data are not available. Both methods rely on estimates of benefits and alternative costs to allocate joint costs among purposes.

Our review of the December 1988 draft study showed that the Bureau included inappropriate costs and made questionable estimates of project benefits and alternative costs. The comments submitted in the public comment period cited similar concerns. The three major problem areas identified are summarized below and described in more detail in appendix II.

First, inappropriate costs were included. To develop distribution percentages for the 1988 study, the Bureau first allocated among project purposes not only \$2.85 billion in costs incurred for facilities in service but also \$3 billion in authorized but unspent costs for facilities that, as of 1986, had not yet been, and may never be, constructed. Distribution percentages calculated from these values were then used to allocate the costs associated only with completed and in-service facilities. In addition, the Bureau included in its allocation certain costs that are specific to only one or a few water districts that have sole responsibility for repaying such costs directly.

Second, benefits and alternative costs assumptions are questionable. In some cases, the Bureau included benefits that are not applicable to the

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project, while excluding others that are. For example, the Bureau included as CVP benefits (1) returns to farm equity, labor, and management from CVP irrigation water that standard economic principles assume would have been earned whether or not the land was irrigated with CVP water and (2) hydroelectric power not generated by the CVP. Conversely, the Bureau excluded the benefits of wildlife conservation because it had no methodology to estimate these benefits.

In addition, the U.S. Army Corps of Engineers' Sacramento District Office calculated flood control benefits for the Bureau by adjusting dated estimates of CVP flood control benefits calculated in the 1960s to 1987 dollars. The Corps District Engineer cautioned, however, that continual updating of this material will not accurately portray current benefits.

In identifying an alternative M&I water source, the Bureau considered the CVP's Shasta Dam on the Sacramento River to be the most likely alternative and updated earlier cost data for the dam. However, the cost data for Shasta Dam originally were developed to depict the estimated cost of water for both irrigation and M&I water supply. Therefore, these data represent a dam and reservoir larger than that needed only for M&I. In addition, Shasta Dam's location precludes water delivery to many M&I users. According to the Bureau's senior economist responsible for the CVP cost allocation, small reservoirs on several rivers throughout the CVP service area would be necessary to provide a realistic alternative source of water for CVP M&I users.

Finally, realistic data are unavailable or are costly and time-consuming to obtain. Bureau engineers informed the senior economist that reliable design and cost data for more realistic alternative M&I facilities no longer exist and that developing new data would be expensive and time-consuming. As an alternative, the Bureau asked CVP M&I water users to estimate how much an additional water supply would cost them if they had to rely on a nonfederal source. Most of the respondents replied that they did not have alternative nonfederal sources of water available. Therefore, they could not supply useful data.

Revised Draft Will Have Similar Problems

Mid-Pacific regional officials said they will revise the study to address problems identified by April 30, 1992. Public comments will be received from July through September of 1992. We discussed with the senior economist how he would be able to overcome the problems associated with estimating the value of project benefits and alternative costs that we

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and others had identified. He explained that new assumptions will be used in some cases; in other cases, assumptions will not change but data will be updated.

For example, according to the senior economist, the alternative cost of water for M&I water uses will be based on the price of water purchased from California's 1991 state water bank. This bank was established to alleviate shortages during the ongoing drought. Alternative costs for waterfowl conservation and other water supply uses will also be based on the water bank price. We question the reasonableness of this new assumption. This price does not reflect the cost of a realistic, long-term water supply, but rather the value of short-term supplies under drought conditions.

We were also told that the Bureau will not estimate the value of waterfowl conservation benefits but will assume that the benefits are equal to or exceed the alternative cost calculated. The Bureau will rely on either the benefits or alternative costs estimated for most other purposes as well. In other words, the Bureau will not calculate both benefits and alternative costs and actually determine which is the lesser value, as required by the AJE method, but will assume that the one value estimated is less than the one not estimated. Irrigation is the only purpose for which both benefits and alternative costs will actually be calculated.

Other assumptions will not change. The Bureau will continue to rely on outdated estimates of flood control benefits, despite the Corps' objections. The Corps refused to adjust the outdated estimates to 1991 dollars, stating that new data should be developed. Because of the estimated time and cost involved, the Bureau has decided not to develop new data and plans to adjust the outdated data itself. The Bureau will also continue to include farm equity, labor, and management in its estimate of irrigation benefits, even though they are not attributable to the project.

The inappropriate costs included in the 1988 study will be excluded in the revised draft. However, inherent problems, such as obtaining realistic data for both benefits and alternative costs and the need to rely on subjective assumptions, will remain. Because of this, the Bureau's revised draft allocation study could be challenged during the public comment period again, and additional delay in deciding on final percentages is likely to occur.

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Delays in Allocating Costs Can Affect Revenues

Delays in allocating CVP costs properly can significantly affect revenues to the U.S. Treasury in several ways. First, costs must be appropriately allocated between reimbursable and nonreimbursable project purposes. Allocation to reimbursable purposes could increase or decrease with an updated allocation. However, if allocation to reimbursable project purposes is currently too low, resulting repayment rates are also too low, reducing revenue to the Treasury until the allocation is updated. Similarly, if costs are incorrectly allocated to noninterest-paying purposes rather than interest-paying purposes, payments to the Treasury will be lower. Conversely, if allocation to certain reimbursable purposes currently is too high, future rates can be adjusted downward so that users do not pay more than they owe.

The Bureau believes it has time to adjust water and power rates to ensure cost recovery by 2030, as required in the 1986 amendments. However, while the correct amount owed may ultimately be repaid as a result of an updated cost allocation, the value of the dollars received years late will be less than if they had been received on time. This decrease occurs because of inflation and the lost opportunities for other productive uses of that money, such as reducing the federal debt.

In addition, if the allocation of costs for any reimbursable purposes currently is too low, the annual rates necessary to ensure repayment of the full allocated amount by 2030 must increase each year the cost allocation is delayed. It is possible that irrigation water users may not have the ability to pay the high rates ultimately necessary to repay their project costs by 2030. Under current reclamation law, shortfalls in irrigators' ability to pay are passed on to power users for ultimate repayment. However, the Bureau does not require power users to repay the irrigation assistance debt until the final year of the repayment schedule. As a result, the dollars that eventually flow to the Treasury are worth much less than if they had been repaid in annual irrigation rates. This is because the present value of money decreases the farther into the future this money is paid. Assume for example, that irrigators make equal annual payments between now and 2030, but repay only 90 percent of the amount they owe the federal government, and power users pay the remaining 10 percent in one lump sum at the end of the period. Using a discount rate of 8.15 percent, the present value of government receipts under this scenario will be \$28 million less than if irrigators pay the full amount in equal annual installments over the same period. Similarly, if irrigators pay only one half of the full amount, with the remaining half paid by power users at the end

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of the period, the corresponding difference in present value will be over \$141 million.²

Alternate Allocation Approaches Are Available

While the Bureau has relied on accepted methods of cost allocation, it could also adopt other acceptable cost allocation methods that are simpler in design. In preparing its initial CVP cost allocation in 1946, the Bureau recognized that several cost allocation methods were available and that each had merit. It concluded that good judgment must be exercised in choosing allocation methods. Similarly, in 1952, when the House Committee on Public Works examined federal practices for allocating project costs, it was favorably impressed with the accepted SCRB method but cautioned that the history of some projects may indicate that it would be unreasonable to use this method. The Committee stressed that reason must enter into each cost allocation and that it would be undesirable to prescribe any rigid rules for allocations.

We discussed with the Bureau two alternative approaches to its cost allocation method. One approach allocates joint costs in direct proportion to the specific costs assigned to each purpose. For example, if specific costs associated with irrigation are 80 percent of all specific project costs, then irrigation would receive 80 percent of the remaining joint costs to be allocated among all project purposes.

The other approach allocates joint costs among purposes on the basis of use. For example, if 20 percent of the water in a reservoir is used for M&I purposes, while 80 percent is used for irrigation, then 20 percent of the costs of the dam and reservoir would be allocated to M&I purposes and 80 percent to irrigation. In many cases, dams and reservoirs are also used for flood control and hydroelectric power generation. In these cases, the percent of space in the reservoir dedicated to controlling floods would represent the share of joint costs dedicated to flood control. Often, almost all water released to water users generates power. Therefore, the remaining joint costs of the dam and reservoir could be divided equally between water and power users. The costs allocated to water users could then be suballocated on the basis of use.

These two approaches have the advantages of (1) eliminating the need to gather data and estimate benefits and alternative costs to allocate joint

²The 8.15-percent discount rate used is the 1991 average of the 30-year U.S. Treasury bond rate. In calculating the present value figures, we assumed equal annual payments between 1992 and 2020, inclusive. Sensitivity analyses one percentage point below and one point above this rate (7.15 percent and 9.15 percent, respectively) yielded present value differences that were quite similar.

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costs among project purposes, (2) applying a cost allocation formula across all purposes, thus reducing subjective assumptions, and (3) generating a cost allocation more quickly with existing data.

We recognize that our suggested approaches, like the Bureau's, may not address all concerns. Bureau guidelines discuss allocating costs on the basis of use as a possible cost allocation method but express concern that use changes over time and that this approach may lead to inequitable results. However, Bureau policies require major cost allocations to be completed every 10 years and updates every 5 years as necessary, which could adjust for use changes. In addition, the Bureau used this approach to assign certain specific costs to various purposes in its 1988 draft study and will continue to do so in its revised draft. The SCRB and AJE methods are designed to develop equitable cost distribution by ensuring that users do not pay more for a purpose than either the benefits they receive or the cost of the most economical alternative that would achieve the same purpose. While our approaches do not ensure that users do not pay more than the benefits or alternative cost of a purpose, they do allocate costs equitably by applying the same criteria across all purposes.

We discussed the appropriateness of these approaches with the Mid-Pacific Region's senior economist responsible for cost allocation. He agreed that our approaches were far less complicated and time-consuming than the method the Bureau had been pursuing and that they would address problems raised in public comments. In December 1991, he informed us that Bureau headquarters advised him to use the AJE method to revise the cost allocation study but also to explore the use of both of our suggested approaches.

Conclusions

The Bureau did not complete its updated cost allocation by the congressionally mandated deadline. In addition, the Bureau's method has two fundamental problems: (1) it relies on assumptions and subjective judgments about costs and benefits relating to each project purpose that are open to question and (2) it requires data that are not always available or that are time-consuming to generate. If the Bureau relies on this method to revise its 1988 draft study, problems identified with the draft are likely to remain, causing additional delay. Because of the potential adverse cost implications for the federal government that are associated with delays in completing the update, we believe the Bureau should adopt a cost allocation methodology that is less complicated and more timely, and relies on existing data.

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Recommendation

To complete the CVP cost allocation expeditiously, we recommend that the Secretary of the Interior direct the Commissioner of the Bureau of Reclamation to use less costly and more timely methodologies to update the CVP cost allocation study. We have suggested two approaches: (1) allocating joint costs in direct proportion to specific costs or (2) allocating joint costs on the basis of use.

Agency Comments

We provided a draft of this report to Interior Department officials and met with Bureau officials in the Mid-Pacific Regional Office in Sacramento, California, to obtain oral agency comments. The officials generally agreed with the factual information in the report. They indicated that they were developing an updated cost allocation based on the A/E method as well as the two approaches we suggested. They are scheduled to provide the results of these three approaches to Bureau headquarters by April 30, 1992. Although they are exploring the use of our approaches, Bureau officials expressed concern that our approaches are not based on an economic analysis of the benefits and alternative costs of each purpose and therefore may not provide a fair allocation of costs among users.

We recognize that our approaches do not ensure that users do not pay more than the benefits received or the alternative cost of a purpose. We question the fairness of allocating costs on the basis of questionable estimates of benefits and alternative costs. In addition, our approaches have advantages over the Bureau's methods by eliminating the need to gather data and estimate benefits and costs, reducing subjective assumptions, and generating a cost allocation more quickly with existing data.

Bureau officials also stated that their guidelines do not include consideration of one of the approaches we suggest—the allocation of joint costs in direct proportion to specific costs. However, they believed that they could obtain approval for the use of this approach for the CVP.

Scope and Methodology

To describe the Bureau's current cost allocation method and determine the status of the cost allocation study that the Congress mandated be implemented by January 1, 1988, we reviewed the Bureau's 1970 cost allocation study, the December 1988 Central Valley Project Cost Allocation Study, and supporting documentation. We discussed the methodologies used to develop project benefit and alternative cost data with the Bureau's senior economist in charge of the cost allocation study and with

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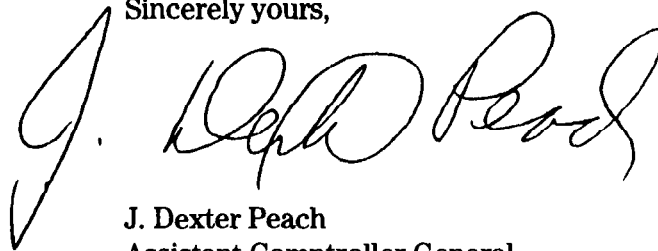
agricultural economic consultants Walter Butcher, from Washington State University, and Richard Howitt, from the University of California at Davis. We reviewed legislation, Bureau instructions, and other cost allocation guidelines to determine whether an alternate cost allocation method would be preferable.

Our work was conducted at the Bureau of Reclamation's Mid-Pacific Regional Office in Sacramento, California, between April 1991 and December 1991 in accordance with generally accepted government auditing standards.

Unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will send copies to the Secretary of the Interior, the Commissioner of the Bureau of Reclamation, and other interested parties. We will also make copies available to others upon request.

This report was prepared under the direction of James Duffus III, Director, Natural Resources Management Issues, who can be reached at (202) 275-7756 if you or your staff have any questions. Other major contributors are listed in appendix III.

Sincerely yours,

A handwritten signature in black ink, appearing to read "J. Dexter Peach". The signature is fluid and cursive, with a large initial "J" and a stylized "P".

J. Dexter Peach
Assistant Comptroller General

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Abbreviations

AJE	Alternative Justifiable Expenditure
CVP	Central Valley Project
GAO	U.S. General Accounting Office
SCRB	Separable Costs Remaining Benefits

Separable Costs Remaining Benefits Method

The Bureau uses the Separable Costs Remaining Benefits (SCRB) method to allocate 1991 CVP costs associated with facilities in service. Current costs are allocated on the basis of distribution percentages developed in 1970 and updated in 1975. This method was developed by the Inter-Agency River Basin Committee, composed of representatives from various federal agencies, which recommended it in 1950 for general use in allocating costs in federal multipurpose projects.

The SCR method is based on the principle that users should not pay more for a purpose than the benefits received or the cost of the most economical single-purpose alternative that would achieve the same purpose. The method involves the following steps:

- Estimates are made about the value of the benefits attributable to each purpose and the alternative costs of achieving each purpose. The smaller of these two estimates represents the amount that can justifiably be spent on each purpose, and is referred to as the justifiable expenditure.
- Separable costs specifically associated with each purpose are then subtracted from the justifiable expenditure to obtain the remaining justifiable expenditure. Separable costs for a purpose represent the difference between the total estimated cost of the multipurpose project, and the cost of the same project with the one purpose omitted.
- Joint costs are allocated to each project purpose in direct proportion to each purpose's share of the total remaining justifiable expenditure.

Table I.1 presents a simplified example of how the SCR method would allocate the costs of a \$30 project among three project purposes.

Appendix I
Separable Costs Remaining Benefits Method

**Table I.1: Simplified Example of the
 SCRB Method**

Factor measured	Purpose			
	Irrigation	M&I	Power	Total
Estimated benefits	\$15	\$30	\$35	\$80
Estimated alternative cost	\$25	\$20	\$40	\$85
Justifiable expenditure	\$15	\$20	\$35	\$70
Less separable costs (assigned to each purpose)	(\$5)	(\$5)	(\$10)	(\$20)
Remaining justifiable expenditure	\$10	\$15	\$25	\$50
Percent of joint cost distribution (based on remaining justifiable total of 50)	20%	30%	50%	100%
Joint costs allocated	\$ 2	\$ 3	\$ 5	\$10
Share of total project costs	\$ 7	\$ 8	\$15	\$30

Notes: Total project cost = \$30 Separable costs total = \$20 Joint costs to be allocated = \$30 - \$20 = \$10

Separable costs associated with each purpose, plus the joint costs allocated to that purpose, represent each purpose's share of the total project cost. The keys to the SCRB method are the estimated value of the benefits attributed to each purpose and the estimated cost of the single-purpose alternative, which determine the justifiable expenditure for each purpose. Joint costs primarily are the costs of the dams and reservoirs, which are used for many purposes. Because the CVP is financially and operationally integrated, the joint costs of these facilities combined, not the cost of each facility separately, are allocated among all project purposes.

Significant Problems With the 1988 Draft Study Have Been Identified

In its 1988 draft study, the Bureau used a variation of the SCRB method—the Alternative Justifiable Expenditure (AJE) method. The AJE method identifies and charges specific costs clearly associated with each purpose to that purpose, rather than charging separable costs to each purpose, as the SCRB method does. Specific costs are the actual costs that have been authorized for a project facility. Separable costs take into account the added costs of increased size of structure and changes in design over that required for other purposes and are generally developed during project formulation. According to the Bureau, separable costs for the CVP are now outdated and new data would be costly to develop. The Federal Inter-Agency River Basin Committee recognized that specific costs may be used in lieu of separable costs when necessary. Both methods rely on estimates of benefits and alternative costs to allocate joint costs among project purposes.

Our review and our consultants' evaluation of the December 1988 draft study showed that the Bureau included inappropriate costs and made questionable estimates of project benefits and alternative costs. The comments submitted in the public comment period cited similar concerns.

Inappropriate Costs Were Included

To develop joint cost distribution percentages for the draft 1988 study, the Bureau first allocated among project purposes costs incurred from facilities in service plus \$3 billion in authorized costs that have not yet been spent. These authorized costs include costs for project facilities that, as of 1986, had not yet been, and may never be, constructed. Distribution percentages calculated from these values were then used to allocate only the costs incurred from completed and in-service facilities among project purposes.

We do not believe that the costs of authorized but not completed project facilities should have been included in the distribution calculations. The benefits and alternative costs of future project features are at best difficult to estimate. Furthermore, basing allocation percentages on one set of benefits and alternative costs (those associated with all authorized features), and then allocating a subset of the benefits and costs (those associated with facilities that are complete and in service), potentially distorts the allocation of incurred costs. Actual experience with project facilities may differ significantly from potential future experiences.

In addition, the Bureau included in its allocation certain costs that are specific to only one or a few water districts that have sole responsibility

Appendix II
Significant Problems With the 1988 Draft
Study Have Been Identified

for repaying such costs directly. Unlike most other water supply costs, these costs are not repaid through general water rates that are based on cost allocation; they are repaid by the responsible water districts directly through individual repayment contracts. By assigning these costs to the general water supply purpose, the Bureau reduced the allocation of joint costs to water supply, thereby increasing the allocation of joint costs to other project purposes.

**Benefits and Alternative
 Cost Assumptions Are
 Questionable**

The Bureau's 1988 draft study includes benefits and alternative costs data that are based on questionable assumptions. To determine benefits, one must decide what to include and exclude as benefits of a purpose and then place a value on these benefits. To determine single-purpose alternative costs, one must identify feasible alternatives that would satisfy each purpose and then estimate the costs of each alternative. We question the reasonableness of many of the assumptions the Bureau used to determine benefits and alternative costs in its 1988 draft study. In some cases, the Bureau included benefits that are not applicable to the project, while excluding others that are. Examples of problems we identified are discussed below and illustrate the types of difficulties involved in estimating CVP benefits and alternative costs.

**Identifying and Valuing
 Benefits**

In identifying benefits, for example, the Bureau included those that would be present even if resources were used for other purposes. The Bureau relied on farm budget studies it had developed to compute the benefits associated with the irrigation water supply. Benefits were measured as the income generated from the use of CVP water for irrigation. According to our consultants, agricultural economists Walter Butcher from Washington State University and Richard Howitt from the University of California at Davis, the Bureau's computed benefits are too high. They note that the Bureau's farm budget studies include returns to certain resources—farm equity, labor, and management—as part of the CVP benefits. However, these returns normally are considered to approximately equal their opportunity costs. Opportunity costs are the return these same resources would have earned in an alternative investment. In other words, returns would have been earned by these resources in some other use if the land were not irrigated with CVP water.

In another instance, the Bureau included the costs of extra power purchased outside the CVP as a project benefit. Hydroelectric power generated by the CVP is used to drive the pumps that deliver project water.

**Appendix II
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Any excess is sold to public electric companies. As requirements for project power have increased, the CVP has kept more power for project use and has, therefore, not been able to provide enough power to meet growing requirements of the electric companies. To meet the shortfall, the Western Area Power Administration, which markets CVP power for the Bureau, has entered into contracts with power suppliers in the Pacific Northwest.

The Bureau considered power benefits of the project to be equal to the cost of a single-purpose alternative source of power for the purposes of cost allocation. After determining the benefits attributable to the power produced by the CVP, the Bureau included, as an additional project benefit, the costs of the extra power purchased from the Pacific Northwest as well as the cost of constructing transmission lines to deliver the power. However, this power is not produced by the project and therefore is not a benefit of the CVP.

In calculating total water supply benefits, the Bureau did not consider waterfowl conservation. The CVP water supply provides water for irrigation, M&I use, and waterfowl conservation. The project also has water that is not allocated to any specific purpose—25 percent of this is set aside temporarily by law for improvements in waterfowl habitat. However, according to the Bureau, there is no method available for computing the benefits of waterfowl conservation. Therefore, water supply benefits include only those benefits calculated for irrigation, M&I, and 75 percent of the unallocated water.

In addition, the U.S. Army Corps of Engineers' Sacramento District Office calculated flood control benefits for the Bureau by adjusting dated estimates of CVP flood control benefits calculated in the 1960s to 1987 dollars. The Corps District Engineer cautioned, however, that continual updating of this material will not accurately portray current benefits.

**Identifying and Costing
Alternatives**

In identifying alternative M&I water sources, the Bureau considered the CVP's Shasta Dam on the Sacramento River to be the most likely alternative source and converted cost data contained in the 1970 CVP cost allocation study to 1987 price levels for use in its 1988 draft study. However, the alternative cost data for the Shasta Dam originally were developed to depict the estimated cost of water for both irrigation and M&I water supply and therefore represent a dam and reservoir larger than that needed only for M&I. In addition, Shasta Dam's location precludes water

**Appendix II
Significant Problems With the 1988 Draft
Study Have Been Identified**

delivery to many M&I users. According to the Bureau's senior economist responsible for the CVP cost allocation, small reservoirs on several rivers throughout the CVP service area would be necessary to provide a realistic alternative source of water to CVP M&I users.

**Realistic Data Unavailable
or Expensive and
Time-consuming to Obtain**

Reliable design and cost data for realistic M&I alternatives are difficult to obtain. The senior economist in charge of the CVP cost allocation study has determined the location of storage, conveyance, and pumping facilities necessary for supplying all CVP M&I water users. However, according to the economist, determining the appropriate size and costs associated with each of these facilities will be difficult. Bureau engineers informed him that reliable design and cost data no longer exist and that developing new data would be expensive and time-consuming.

As an alternative, the Bureau asked CVP M&I water users to estimate how much an additional water supply would cost them if they had to rely on a nonfederal source. Most of the respondents replied that they do not have alternative nonfederal sources of water available.

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Testimony

Before the Subcommittee on Water and Power
Resources, Committee on Resources, House of
Representatives

For Release
on Delivery
Expected at
2:00 p.m. EDT
Tuesday
May 6, 1997

**BUREAU OF
RECLAMATION**

**Reclamation Law and the
Allocation of Construction
Costs for Federal Water
Projects**

Statement of Victor S. Rezendes, Director,
Energy, Resources, and Science Issues,
Resources, Community, and Economic
Development Division



Mr. Chairman and Members of the Subcommittee:

We are pleased to be here today to discuss the Bureau of Reclamation's financing of federal water projects. Since 1902, the federal government has been involved in financing and building water projects, primarily to reclaim arid and semiarid land in the West. Initially, these projects were generally small and built almost solely to provide irrigation. Over the years, however, new projects have grown in size and purpose to include providing for municipal and industrial water supply, hydroelectric power generation, recreation, flood control, and other benefits in addition to irrigation. The Department of the Interior's Bureau of Reclamation and the U.S. Army Corps of Engineers build most federal water projects. While the Corps operates nationwide, the Bureau conducts its activities only in 17 western states.

Over the years, in response to issues raised by this Subcommittee and other congressional committees, we have reported on several aspects of water resource management within the Bureau of Reclamation. My testimony today is based primarily on the findings of three of these reports¹ and focuses on (1) the evolution of reclamation law² primarily from 1902 to 1982 and (2) the allocation and repayment of construction costs for federal water projects among the projects' beneficiaries.

Reclamation Law From 1902 to 1982

The Reclamation Act of 1902 established the Reclamation Fund and provided for the construction of single-purpose irrigation projects in the West. These projects were built primarily to meet the nation's objective at that time of "developing the West." Since then, reclamation law has been significantly amended and supplemented.

Initially, the federal water project construction program was to be self-sufficient. Although debate occurred on how a reclamation program should be financed, when the Congress passed the Reclamation Act of 1902, it clearly intended that the projects' costs should be repaid by the irrigators using the water delivered by the projects. No appropriated funds were to be used to build these water projects. Under the 1902 act, projects were to be funded through a revolving fund initially capitalized by revenue

¹Bureau of Reclamation: Information on Allocation and Repayment of Costs of Constructing Water Projects ([GAO/RCED-96-109](#), July 3, 1996), Water Subsidies: Basic Changes Needed to Avoid Abuse of the 960-Acre Limit ([GAO/RCED-90-6](#), Oct. 12, 1989), and Reforming Interest Provisions in Federal Water Laws Could Save Millions (CED-82-3, Oct. 22, 1981).

²Collectively, the federal statutes that are generally applicable to all reclamation water projects and the statutes authorizing individual projects are known as reclamation law.

generated from the sale of public lands. Upon the completion of a project, irrigators were to repay the revolving fund for the costs of constructing the project within 10 years. However, from the beginning, irrigators were not required to pay interest on their repayment obligation. The act's legislative history states that "... the Government, interested only in the settlement of the lands, can well forego any interest on investments and be content with the return of the principal."

Early on, it was discovered that the costs of establishing irrigated farming on previously unfarmed, arid land were much higher than expected and the costs of building water projects were much higher than originally estimated. As a result, major funding and repayment changes were made to the reclamation program between 1902 and 1939. For example, in 1906, the Congress authorized the sale of surplus power from water projects to towns and the crediting of the sale revenues to the repayment of irrigation costs. In 1910, the Congress directed the U.S. Treasury to loan up to \$20 million to the fund to finance completion of the construction of water projects. Then, in 1914, to ease irrigators' financial difficulties, the Congress enacted the Reclamation Extension Act, which extended the repayment period from 10 to 20 years. Although the irrigators were having difficulty meeting their repayment obligations, the principle that they should repay the costs of construction continued. In 1926, the Congress enacted the Omnibus Adjustment Act, which further extended the repayment period for all water projects from 20 to 40 years and relieved some irrigators of parts of their repayment obligations because of nonproductive lands in certain projects. Repayment for irrigators remained interest-free.

In 1939, the Congress fundamentally changed the nature of the program by enacting the Reclamation Project Act of 1939. Under this act, projects could be authorized for multiple purposes, and the construction costs would be allocated among the projects' various purposes: irrigation, municipal and industrial water supply, hydroelectric power generation, flood control, and navigation. The legislation allowed the costs of these multipurpose projects to be shared among the various beneficiaries so that the projects, including those that provided irrigation, would be economically viable. The act provided that construction costs allocated to municipal and industrial water supply and power could be repaid with interest. The act also gave irrigators additional relief in fulfilling their repayment obligations by allowing for variable annual payments based on crop returns and providing for an interest-free development period of up

to 10 years before starting to require repayment. Since 1939, appropriated funds have been used to construct most reclamation projects.

With the passage of the Reclamation Reform Act of 1982, the Congress increased the number of acres that an individual or legal entity, such as a partnership or corporation, could irrigate with water from federal projects from 160 acres to 960 owned or leased acres. However, owned land above this limit could not be irrigated with federal water, and the act required irrigators to pay the “full cost” for water delivered to leased land over the limit. The concept of full-cost pricing represented a significant departure from prior reclamation law. The full-cost rate is an annual rate intended to repay over time the portion of the federal government’s expenditures for project construction allocated to irrigation, including the operation and maintenance expenses, with interest.

In addition to legislation that is generally applicable to all federal water projects, the Congress has also enacted specific authorizing legislation dictating a water project’s purposes, cost reimbursement terms, and repayment period. For example, section 2 of the Tualatin Project Act of 1966³ authorizes a 50-year period for the repayment of the portion of a project’s construction costs allocated to irrigation and municipal and industrial water supply.

Although these legislative provisions include changes in the requirements for repaying costs, they still support the overall principle that the federal costs incurred in constructing a water project for the purposes of irrigation, municipal and industrial water supply, and power should be repaid to the federal government. Appendix I lists some of the significant legislation enacted since 1902 affecting the reclamation project construction program.

Allocation of Projects’ Costs and Repayment Requirements

Reclamation law determines how the costs of constructing reclamation projects are allocated and how repayment responsibilities are assigned among the projects’ beneficiaries. In implementing reclamation law, the Bureau is guided by its implementing regulations, administrative decisions of the Secretary of the Interior, and applicable court cases.

Under reclamation law, a project’s construction costs are divided into two categories—reimbursable and nonreimbursable costs. Reimbursable costs are those that are repaid by the project’s beneficiaries. The costs allocated

³P. L. 89-596, 80 Stat. 822.

to irrigation, municipal and industrial water use, and power generation are reimbursable. Nonreimbursable costs are those that are borne by the federal government because certain purposes of the project are viewed as national in scope. These costs include those allocated to flood control and navigation, as well as the majority of the costs allocated to fish and wildlife enhancement, highway transportation, and recreation. For example, the \$108 million Weber Basin project in Utah includes \$18.9 million in nonreimbursable costs allocated to flood control, recreation, fish and wildlife enhancement, highway transportation, and the safety of dams.

The amount of reimbursable costs that a water user is responsible for repaying varies by the type of user. Irrigators are responsible for repaying their allocated share of a project's construction costs as limited by a determination of their ability to pay.⁴ They are not required to repay the interest that accrues during construction or during the repayment period. Municipal and industrial water users and power users are responsible for repaying their allocated share of the construction costs plus the interest that accrues during the repayment period. They can also be required to repay the construction costs that are determined to be above the irrigators' ability to pay; however, they pay no interest on these shifted costs. Appendix II shows how costs are typically allocated for repayment among a project's water users.

As of September 30, 1994,⁵ the federal government had spent \$21.8 billion to construct 133 water projects that included irrigation as a purpose. The Bureau has determined that the federal government should be reimbursed for \$16.9 billion, or about 77 percent, of the \$21.8 billion. Of these reimbursable costs, the largest repayment obligation—\$7.1 billion—was allocated to irrigation. The Bureau has also determined that under reclamation law, \$5 billion, or about 23 percent, of the water projects' total construction costs is nonreimbursable. The largest share of these nonreimbursable costs, about \$1.1 billion, was allocated to flood control. We did not determine how much of the \$16.9 billion of reimbursable costs

⁴Since 1906, reclamation law has authorized the use of power revenues to assist in the repayment of irrigation costs. A 1944 opinion from the Department of the Interior's Office of the Solicitor, interpreting the provisions of the 1939 act, confirmed the principle of limiting the financial obligation of irrigators to their ability to pay their share of a project's construction costs. Costs determined to be beyond the irrigators' ability to pay could be repaid from other revenue sources, primarily from revenues earned from the sale of electrical power generated by the projects. Payments made from other sources under this interpretation of the law became known as irrigation assistance.

⁵When we issued our 1996 report, these were the most current data available in the Bureau's financial reports for the 133 projects.

has been repaid. Appendix III shows how the \$21.8 billion is allocated among specific project purposes.

This concludes my statement, Mr. Chairman. I would be happy to respond to any questions that you or other Members of the Subcommittee may have.

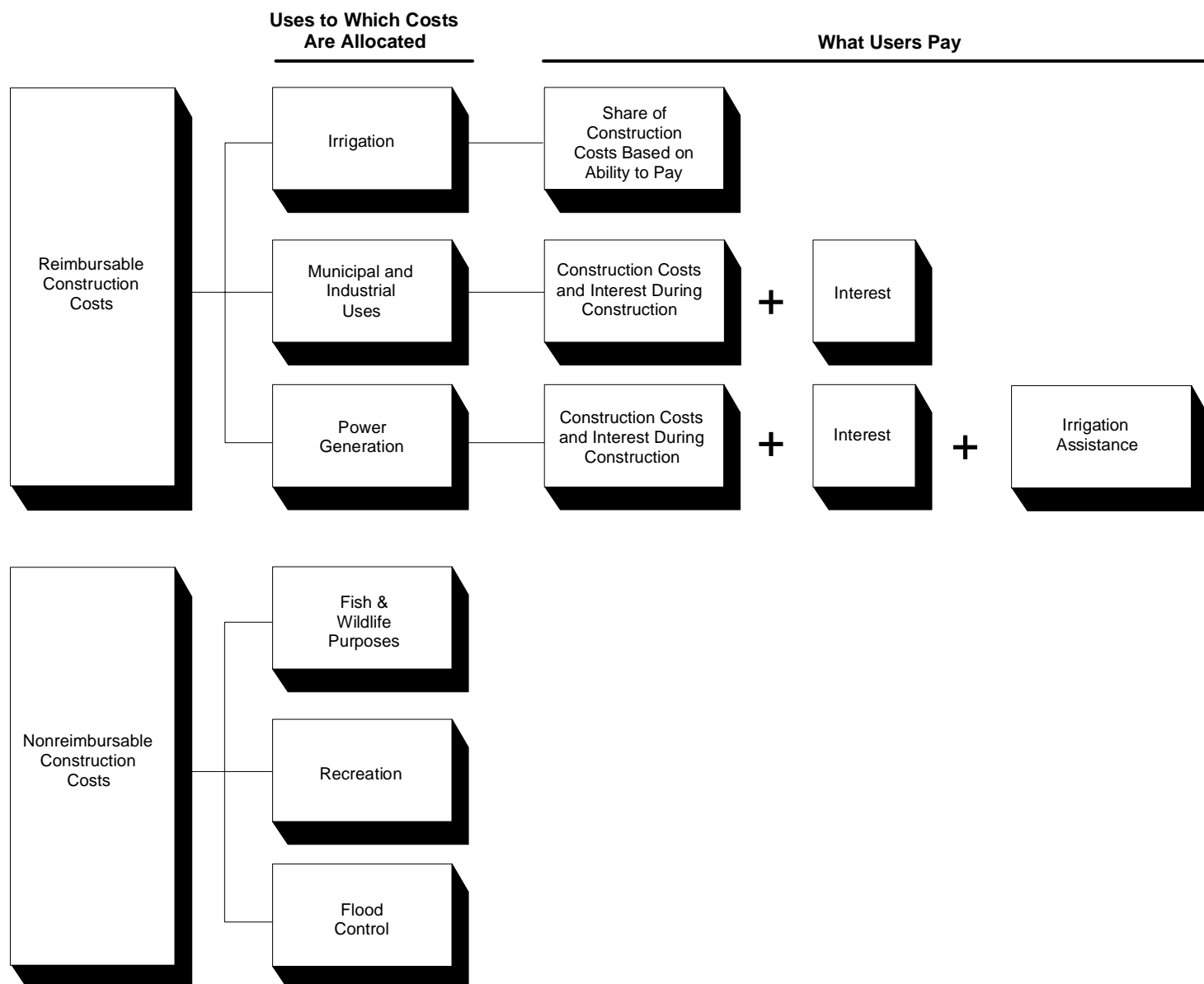
Appendix I

Some Significant Changes in Reclamation Law Regarding the Allocation of Project Costs and Their Repayment

Statute	Change
Reclamation Act of 1902 (32 Stat. 388)	<ul style="list-style-type: none"> •Irrigation projects are authorized. •Construction is funded via a revolving fund. •Repayment of costs takes place over 10 years. •Repayment is interest-free.
Town Sites and Power Development Act of 1906 (34 Stat. 116)	<ul style="list-style-type: none"> •Establishment of towns and provision of water are authorized. • Projects' surplus power can be sold to towns and the revenues credited to repayment of irrigation costs.
Advances to the Reclamation Fund Act of 1910 (36 Stat. 835)	<ul style="list-style-type: none"> •U.S. Treasury is directed to loan up to \$20 million to the fund to finance completion of water projects' construction.
Reclamation Extension Act of 1914 (38 Stat. 686)	<ul style="list-style-type: none"> •Repayment period is extended from 10 to 20 years.
Fact Finders' Act of 1924 (43 Stat. 672)	<ul style="list-style-type: none"> •Repayment requirements are amended to 5 percent per year of irrigators' average crop value for the preceding 10 years. •Use of project revenues from nonirrigation activities, such as power sales and surplus water sales, is authorized for repayment of irrigators' construction costs and payment of operation and maintenance costs.
Omnibus Adjustment Act of 1926 (44 Stat. 636)	<ul style="list-style-type: none"> •Repayment period is extended from 20 to 40 years. •Irrigators are relieved of parts of their repayment obligations because of nonproductive land at specified projects.
Five Million Dollar Advance to the Reclamation Fund Act of 1931 (46 Stat. 1507)	<ul style="list-style-type: none"> •U.S. Treasury is directed to loan up to \$5 million to the fund to finance completion of water projects' construction.
Reclamation Project Act of 1939 (53 Stat. 1187)	<ul style="list-style-type: none"> •Water projects are authorized for multiple purposes, including power, municipal and industrial water supply, navigation, and flood control. •Construction of projects is financed by appropriated funds. •Development period of up to 10 years is added to irrigators' repayment schedule. •Some construction costs are designated as nonreimbursable. • Power costs are to be repaid with interest. •Municipal and industrial water supply costs can be repaid with interest. •Repayment of irrigation costs remains interest-free.
Rehabilitation and Betterment Act of 1949 (63 Stat. 724)	<ul style="list-style-type: none"> •Repayment of expenditures is authorized for the rehabilitation and betterment of the irrigation systems of existing Bureau projects in installments fixed according to the water user's ability to pay.
Federal Water Project Recreation Act of 1965 (P.L. 89-72, 79 Stat. 213)	<ul style="list-style-type: none"> •Up to 50 percent of the separable construction costs for recreation and fish and wildlife enhancement are deemed nonreimbursable. • Reimbursable costs for these purposes are to be repaid with interest over 50 years.
Reclamation Reform Act of 1982 (43 U.S.C. 390aa to zz-1)	<ul style="list-style-type: none"> •The acre limit that an individual or legal entity can irrigate with water from a federal project is increased from 160 acres to 960 owned or leased acres. •Owned land above the acre limit cannot be irrigated with federal water. •Irrigators are required to pay full cost for water delivered to leased land over their acre limit.

Appendix II

Typical Allocation of Federal Water Project Construction Costs



Appendix III

Allocation of Construction Costs for 133 Water Projects, by Specific Project Purpose and Amount, as of September 30, 1994

Type of costs	Amount
Reimbursable costs	
Irrigation	\$7,095,702
Municipal and industrial water supply	3,103,283
Power	6,373,084
Other	292,605
Subtotal	\$16,864,674
Nonreimbursable costs	
Flood control	\$1,093,760
Recreation	504,149
Fish and wildlife	929,980
Highway improvement	80,482
Safety of dams	750,683
Cultural restoration	54,943
Indian use	806,615
Other	739,610
Subtotal	\$4,960,222
Total costs	\$21,824,896

Source: Bureau of Reclamation Project Construction Cost and Repayment Reports as of September 30, 1994.

Appx0184


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PUBLIC LAW 99-546 [H.R. 3113]; October 27, 1986

WATER RESOURCE AND SMALL RECLAMATION PROJECTS

*For Legislative History of Act see Report for P.L. 99-546 in
Legislative History Section, post.*

An Act to implement the Coordinated Operations Agreement, the Suisun Marsh Preservation Agreement, and to amend the Small Reclamation Projects Act of 1956, as amended, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the
United States of America in Congress assembled,*

Conservation.
California.
Water.

TITLE I—COORDINATED OPERATIONS

PROJECT OPERATION POLICY

SEC. 101. Section 2 of the Act of August 26, 1937 (50 Stat. 850) is amended by—

(a) inserting at the beginning “(a)”; and

(b) inserting the following new subsection:

California.

“(b)(1) Unless the Secretary of the Interior determines that operation of the Central Valley project in conformity with State water quality standards for the San Francisco Bay/Sacramento-San Joaquin Delta and Estuary is not consistent with the congressional directives applicable to the project, the Secretary is authorized and directed to operate the project, in conjunction with the State of California water project, in conformity with such standards. Should the Secretary of the Interior so determine, then the Secretary shall promptly request the Attorney General to bring an action in the court of proper jurisdiction for the purposes of determining the applicability of such standards to the project.

“(2) The Secretary is further directed to operate the Central Valley project, in conjunction with the State water project, so that water supplied at the intake of the Contra Costa Canal is of a quality equal to the water quality standards contained in the Water Right Decision 1485 of the State of California Water Resources Control Board, dated August 16, 1978, except under drought emergency water conditions pursuant to a declaration by the Governor of California. Nothing in the previous sentence shall authorize or require the relocation of the Contra Costa Canal intake.”.

REIMBURSABLE COSTS

SEC. 102. Section 2 of the Act of August 26, 1937 (50 Stat. 850) is amended by inserting the following new subsection:

“(c)(1) The costs associated with providing Central Valley project water supplies for the purpose of salinity control and for complying with State water quality standards identified in exhibit A of the ‘Agreement Between the United States of America and the Department of Water Resources of the State of California for Coordinated Operation of the Central Valley Project and the State Water Project’ dated May 20, 1985, shall be allocated among the project purposes and shall be reimbursed in accordance with existing Reclamation law and policy. The costs of providing water for salinity

100 STAT. 3050

control and for complying with State water quality standards above those standards identified in the previous sentence shall be nonreimbursable.

"(2) The Secretary of the Interior is authorized and directed 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."

COORDINATED OPERATIONS AGREEMENT

SEC. 103. Section 2 of the Act of August 26, 1937 (50 Stat. 850) is amended by inserting the following new subsection:

"(d) The Secretary of the Interior is authorized and directed to execute and implement the 'Agreement Between the United States of America and the Department of Water Resources of the State of California for Coordinated Operation of the Central Valley Project and the State Water Project' dated May 20, 1985: *Provided, That*—

"(1) the contract with the State of California referred to in subarticle 10(h)(1) of the agreement referred to in this subsection for the conveyance and purchase of Central Valley project water shall become final only after an Act of Congress approving the execution of the contract by the Secretary of the Interior; and,

"(2) the termination provisions of the agreement referred to in this subsection may only be exercised if the Secretary of the Interior or the State of California submits a report to Congress and sixty calendar days have elapsed (which sixty days, however, shall not include days on which either the House of Representatives or the Senate is not in session because of an adjournment of more than three days to a day certain) from the date on which said report has been submitted to the Speaker of the House of Representatives and the President of the Senate for reference to the Committee on Interior and Insular Affairs of the House of Representatives and the Committee on Energy and Natural Resources of the Senate. The report must outline the reasons for terminating the agreement and, in the case of the report by the Secretary of the Interior, include the views of the Administrator of the Environmental Protection Agency and the Governor of the State of California on the Secretary's decision."

Reports.

REFUGE WATER SUPPLY INVESTIGATION

SEC. 104. The Secretary of the Interior shall not contract for the delivery of more than 75 percent of the firm annual yield of the Central Valley project not currently committed under long-term contracts until one year after the Secretary has transmitted to the Congress a feasibility report, together with his recommendations, on the "Refuge Water Supply Investigations, Central Valley Basin, California."

Reports.
Contracts.

ADJUSTMENT OF RATES AND ABILITY TO PAY

SEC. 105. The Secretary of the Interior shall include in all new or amended contracts for the delivery of water from the Central Valley project a provision providing for the automatic adjustment of rates by the Secretary of the Interior if it is found that the rate in effect

Contracts.
Securities.

may not be adequate to recover the appropriate share of the existing Federal investment in the project by the year 2030. The contracts shall also include a provision authorizing the Secretary of the Interior to adjust determinations of ability to pay every five years.

OPERATION AND MAINTENANCE DEFICITS

Contracts.

SEC. 106. 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 costs of the Central Valley project is repaid by such contractor under the terms of such new or amended contract, together with interest on any such deficit which arises on or after October 1, 1985, at a rate equal to the average market yields on outstanding marketable obligations of the United States with remaining periods to maturity comparable to the applicable reimbursement period of the project, adjusted to the nearest one-eighth of 1 percent.

TITLE II—SUISUN MARSH PRESERVATION AGREEMENT

AUTHORITY TO ENTER AGREEMENT

SEC. 201. The Secretary of the Interior is authorized to execute and implement the agreement between the Department of the Interior, the State of California and the Suisun Resources Conservation District (dated November 1, 1985).

COST-SHARING PROVISIONS

SEC. 202. The costs of implementing the agreement provided in section 201 of this title shall be shared by the Bureau of Reclamation and the California Department of Water Resources in strict accordance with article 12 of that agreement: *Provided, That—*

(a) payments made by the Secretary of the Interior shall not exceed 40 percent of the construction costs incurred under articles 6, 7, and 8 of the agreement, or \$50,000,000, whichever is less, plus or minus such amounts as are justified by reason of ordinary fluctuations in construction costs as indicated by engineering cost indices applicable to the types of construction involved therein;

(b) the Federal share of continuing annual operation and maintenance costs, including monitoring, shall not exceed 40 percent of the actual operation and maintenance costs; and,

(c) the costs incurred by the United States for construction and for annual operation and maintenance in connection with the implementation of said agreement shall constitute an integral part of the cost of the Central Valley project. The Secretary shall allocate such costs to the reimbursable and nonreimbursable purposes served by the project.

COSTS INCURRED

SEC. 203. Costs incurred both before and after the date of execution of the agreement herein authorized are to be included in the

total for determining the Federal share of construction, operation, and maintenance costs.

AUTHORIZATION OF APPROPRIATIONS

SEC. 204. There are authorized to be appropriated for the implementation of the agreement referred to in Section 201 of this title \$50,000,000 plus or minus such amounts, if any, as may be justified by reason of ordinary fluctuations in construction costs as indicated by engineering cost indices applicable to the types of construction involved therein and, in addition thereto, in accordance with subsection 201(b) of this title, such sums as may be required for operation and maintenance: *Provided*, That no Federal funds may be expended pursuant to this title in advance of appropriations therefor: *Provided further*, That appropriations pursuant to this title shall remain available until expended without any fiscal year limitation.

TITLE III—SMALL RECLAMATION PROJECTS ACT

REFERENCE TO SMALL PROJECTS ACT

SEC. 301. As used in this title, the term "the Act" means the Small Reclamation Projects Act of 1956, as amended (43 U.S.C. 422a et seq.).

REHABILITATION AND BETTERMENT

SEC. 302. Section 1 of the Act is amended by inserting after the word "laws" ", with emphasis on rehabilitation and betterment of existing projects for purposes of significant conservation of water, energy, and the environment and for purpose of water quality control,".

Energy.
Environmental
protection.
43 USC 422a.

FILING FEE

SEC. 303. The second sentence of section 3 of the Act is amended by striking "\$1,000" and inserting in lieu thereof "\$5,000".

43 USC 422c.

COST SHARING

SEC. 304. (a) Section 4(b) of the Act is amended by inserting "(1)" after (b) and by striking "by loan and grant under this Act" and inserting in lieu thereof "by loan and grant of Federal funds".

Loans.
Grants.
43 USC 422d.

(b) Section 4(b) of the Act is amended by adding the following new paragraph at the end thereof:

Gifts and
property.

"(2) The Secretary shall require each organization to contribute toward the cost of the project (other than by loan and/or grant of Federal funds) an amount equal to 25 percent or more of the allowable estimated cost of the project: *Provided*, That the Secretary, at his discretion, may reduce the amount of such contribution to the extent that he determines that the organization is unable to secure financing from other sources under reasonable terms and conditions, and shall include letters from lenders or other written evidence in support of any funding of an applicant's inability to secure such financing in any project proposal transmitted to the Congress: *Provided further*, That under no circumstances shall the Secretary reduce the amount of such contribution to less than 10 percent of the allowable estimated total project costs. In determining the amount of the contribution as required by this paragraph, the

Ante, p. 3053.

Infra.

Secretary shall credit toward that amount the cost of investigations, surveys, engineering, and other services necessary to the preparation of proposals and plans for the project as required by the Secretary, and the costs of lands and rights-of-way required for the project, and the \$5,000 fee described in section 3 of this Act. In determining the allowable estimated cost of the project, the Secretary shall not include the amount of grants accorded to the organization under section 5(b)."

SOIL SURVEY

Agriculture and
agricultural
commodities.
43 USC 422d.

SEC. 305. Section 4(c) of the Act is amended by inserting the following after the first sentence: "Each project proposal transmitted by the Secretary to the Congress shall include a certification by the Secretary that an adequate soil survey and land classification has been made, or that the successful irrigability of those lands and their susceptibility to sustained production of agricultural crops by means of irrigation has been demonstrated in practice. Such proposal shall also include an investigation of soil characteristics which might result in toxic or hazardous irrigation return flows."

COMPATIBILITY WITH CROPS PROJECTS

Fish and fishing.
Wildlife.
Flood control.
43 USC 422e.

SEC. 306. Section 5(b) of the Act is amended by striking everything after the words "joint use facilities properly allocable to fish and wildlife enhancement or public recreation," and substituting the following in lieu thereof:

"(5) that portion of the estimated cost of constructing the project which, if it were constructed as a Federal reclamation project, would be properly allocable to functions, other than recreation and fish and wildlife enhancement and flood control, which are nonreimbursable under general provisions of law applicable to such projects; and (6) that portion of the estimated cost of constructing the project which is allocable to flood control and which would be nonreimbursable under general provisions of law applicable to projects constructed by the Secretary of the Army."

REPAYMENT AND INTEREST

43 USC 422e.

Loans.
Contracts.

SEC. 307. (a) Section 5(c)(1) of the Act is amended by striking "fifty" and inserting in lieu thereof "forty".

(b) Section 5(c)(2) of the Act is amended to read as follows: "interest, as determined by the Secretary of the Treasury, as of the beginning of the fiscal year in which the contract is executed, on the basis of the average market yields on outstanding marketable obligations of the United States with remaining periods of maturity comparable to the applicable reimbursement period of the project, adjusted to the nearest one-eighth of 1 percent on the unamortized balance of any portion of the loan—

43 USC 390bb.
Energy.
Fish and fishing.
Wildlife.

"(A) which is attributable to furnishing irrigation benefits in each particular year to land held in private ownership by a qualified recipient or by a limited recipient, as such terms are defined in section 202 of the Reclamation Reform Act of 1982, in excess of three hundred and twenty irrigable acres; or,

"(B) which is allocated to domestic, industrial, or municipal water supply, commercial power, fish and wildlife enhance-

ment, or public recreation except that portion of such allocation attributable to furnishing benefits to a facility operated by an agency of the United States, which portion shall bear no interest."

(c) The remainder of section 5(c) of the Act is stricken in its entirety.

FISH AND WILDLIFE FUNDING

SEC. 308. Section 8 of the Act is amended by adding at the end thereof the following sentence: "The Secretary shall transfer to the Fish and Wildlife Service or to the National Marine Fisheries Service, out of appropriations or other funds made available under this Act, such funds as may be necessary to conduct the investigations required to carry out the purposes of this section."

43 USC 422h.

AUTHORIZATION AND LIMITATION

SEC. 309. (a) Section 10 of the Act is amended in the first sentence by inserting before "Provided" "and, effective October 1, 1986, not to exceed an additional \$600,000,000".

Effective date:
43 USC 422j.

(b) Section 10 of the Act is further amended by adding at the end thereof the following: "Not more than 20 percent of the total amount of additional funds authorized to be appropriated effective October 1, 1986, for loans and grants pursuant to this Act shall be for projects in any single State: *Provided*, That beginning five years after the date of enactment of this Act, the Secretary is authorized to waive the 20 percent limitation for loans and grants which meet the purposes set forth in section 1 of this Act: *Provided further*, That the decision of the Secretary to waive the limitation shall be submitted to the Congress together with the project proposal pursuant to section 4(c) of this Act and shall become effective only if the Congress has not, within 60 legislative days, passed a joint resolution of disapproval for such a waiver."

Loans.
Grants.

Ante, p. 3053.

Ante, p. 3054.

TRANSITION RULES

SEC. 310. The provisions of Sections 303 and 308 of this title shall take effect upon enactment of this title. The provisions of sections 304(a) and 305 of this title shall be applicable to all proposals for which final applications are received by the Secretary after January 1, 1986. The provisions of Sections 302, 304(b), 306, and 307 shall be applicable to all proposals for which draft applications are received by the Secretary after August 15, 1986.

Effective date.
43 USC 422a
note.

SURPLUS CROPS REPORT

SEC. 311. The Secretary of the Interior and the Secretary of Agriculture shall review the effect of the Small Reclamation Projects Act of 1956, as amended, on the operation and objectives of the programs of the Department of Agriculture dealing with the production of surplus commodities as determined by the Secretary of Agriculture pursuant to the Agriculture Act of 1949, as amended, and shall jointly submit a report of their findings to the Committee on Energy and Natural Resources and the Committee on Agriculture, Nutrition and Forestry of the Senate and the Committee on Interior and Insular Affairs and the Committee on Agriculture of the House of Representatives no later than 120 days from the date of

Reports.

43 USC 422a *et seq.*

7 USC 1421 note.

enactment of this Act together with their recommendations, if any, for any changes to either or both programs to better achieve the objectives of such programs.

TITLE IV—VALIDATION OF CONTRACTS

Dams.

SEC. 401. The Federal Power Act (Act of June 10, 1920, 41 Stat. 1063; 16 U.S.C. 791a et seq., and Acts amendatory thereof and supplementary thereto) is amended in section 10(e) (16 U.S.C. 803(e)) by deleting "Commission." and inserting in lieu thereof: "Commission: *Provided however*, That no charge shall be assessed for the use of any Government dam or structure by any licensee if, before January 1, 1985, the Secretary of the Interior has entered into a contract with such licensee that meets each of the following requirements:

Energy.

"(A) The contract covers one or more projects for which a license was issued by the Commission before January 1, 1985.

"(B) The contract contains provisions specifically providing each of the following:

"(i) A powerplant may be built by the licensee utilizing irrigation facilities constructed by the United States.

"(ii) The powerplant shall remain in the exclusive control, possession, and ownership of the licensee concerned.

"(iii) All revenue from the powerplant and from the use, sale, or disposal of electric energy from the powerplant shall be, and remain, the property of such licensee.

"(C) The contract is an amendatory, supplemental and replacement contract between the United States and: (i) the Quincy-Columbia Basin Irrigation District (Contract No. 14-06-100-6418); (ii) the East Columbia Basin Irrigation District (Contract No. 14-06-100-6419); or, (iii) the South Columbia Basin Irrigation District (Contract No. 14-06-100-6420).

This paragraph shall apply to any project covered by a contract referred to in this paragraph only during the term of such contract unless otherwise provided by subsequent Act of Congress."

Approved October 27, 1986.

LEGISLATIVE HISTORY—H.R. 3113:

HOUSE REPORTS: No. 99-257 (Comm. on Interior and Insular Affairs).

SENATE REPORTS: No. 99-265 (Comm. on Energy and Natural Resources).

CONGRESSIONAL RECORD:

Vol. 131 (1985): Sept. 9, considered and passed House.

Vol. 132 (1986): July 16, considered and passed Senate, amended.

Oct. 14, House agreed to conference report.

Oct. 15, Senate agreed to conference report.

WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 22 (1986):

Oct. 27, Presidential statement.

TITLE 34 OF PUBLIC LAW 102-575

CENTRAL VALLEY PROJECT IMPROVEMENT ACT

CENTRAL VALLEY PROJECT - CALIFORNIA

**REVISED INTERIM GUIDELINES:
RESTORATION FUND PAYMENTS AND CHARGES**

OCTOBER 1993

United States Department of the Interior
Bureau of Reclamation
Sacramento, California

**JOINT TRIAL
EXHIBIT 6
No. 14-817C**

**REVISED INTERIM GUIDELINES:
RESTORATION FUND PAYMENTS AND CHARGES
CENTRAL VALLEY PROJECT IMPROVEMENT ACT**

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ABSTRACT

Objective and Authority

To develop interim guidelines for the calculation, assessment, collection and crediting of payments and charges to be paid by Central Valley Project (Project) water and power beneficiaries as required by subsections 3404(c)(3), 3405(d), 3405(a)(1)(B), and 3406(c)(1), and Section 3407 of Title 34 of Public Law 102-575. The incremental revenues collected as a result of the requirement to pay these payments and charges shall constitute the Project Restoration Fund (hereafter referred to as the Restoration Fund) and are to be used by the Secretary of the Interior (Secretary) as required by Title 34.

The Restoration Fund

The Bureau of Reclamation has established the Restoration Fund account in which to deposit and record the receipt of monies appropriated by Congress to carry out the programs, projects, plans, and wildlife restoration, improvement and acquisition provisions of Title 34.

Deposits

All incremental revenues collected as a result of the requirement to pay Pre-Renewal Charges [subsection 3404(c)(3)], Tiered Water Rates [subsection 3405(d)], Transferred Water Rates [subsection 3405(a)(1)(B)], Friant Surcharges [subsection 3406(c)(1)], Municipal and Industrial Surcharges [subsection 3407(d)(2)(A)] (herein collectively referred to as the Non-Discretionary Payments), which are to be assessed and collected annually¹ by Reclamation, and all Non-Federal Contributions [subsection 3407(a)], if any, which are received to advance the specific purposes of Title 34, will be deposited into the Restoration Fund.

The other principal source of funds -- referred to in the Interim Guidelines as Restoration Payments [subsections 3407(c) and (d) (and sometimes referred to as Discretionary Payments)] -- cannot be collected, at least through fiscal year 1997, absent Congressional appropriations. If the total amount appropriated on an annual average basis by Congress following enactment of Title 34 does not equal \$50 million (October 1992 price levels), the Secretary shall -- as may be limited by the various provisions of subsection 3407(d) of Title 34 -- automatically impose Restoration Payments in each year thereafter sufficient to provide for the annual collection of \$50 million (October 1992 price levels). The later action will change the Restoration Payments from Discretionary Payments to Non-Discretionary Payments.

¹ Consistent with Title 34, Pre-Renewal Charges will not be assessed and collected until certain conditions are met. See Part C of these Interim Guidelines.

Diagram 1 illustrates the relative relationship of the Discretionary Payments, Non-Discretionary Revenues and Non-Federal Contributions, if any, to the Restoration Fund.

Authority to Use Funds

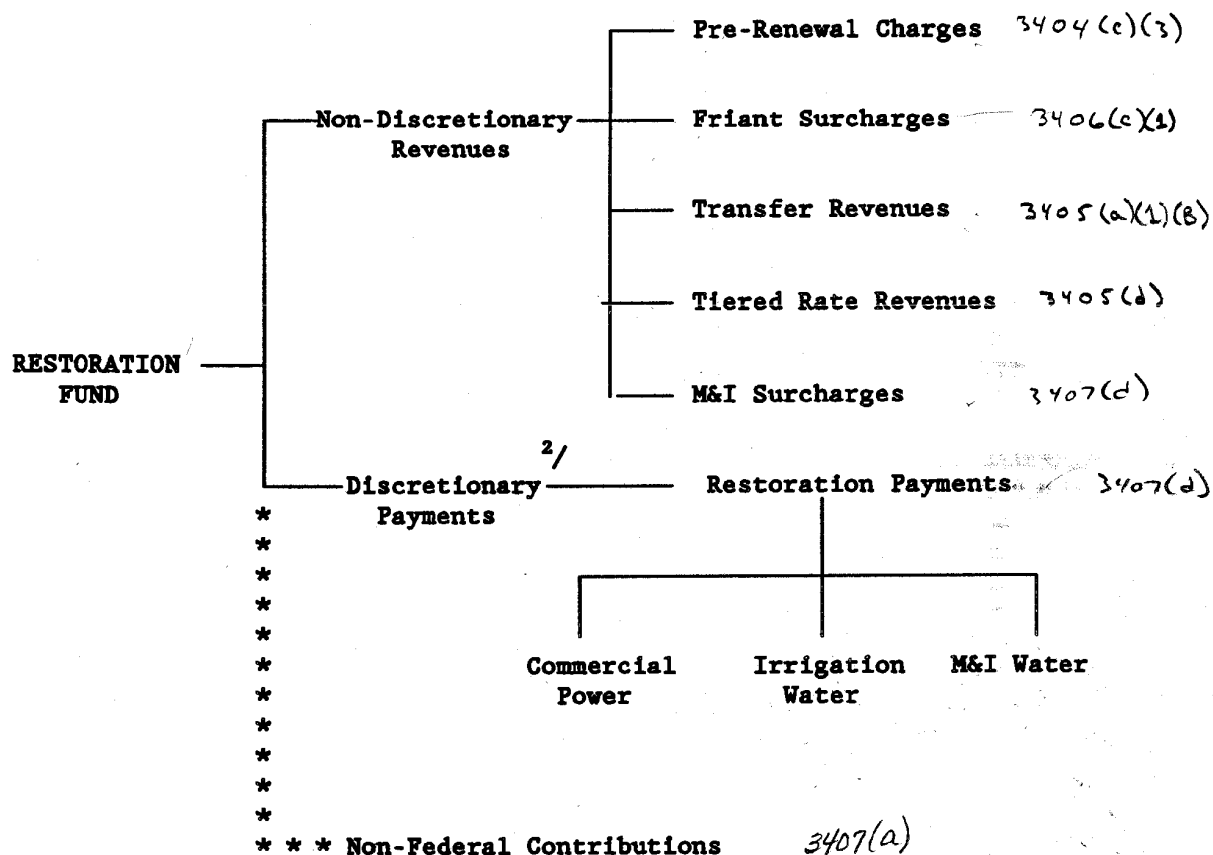
Restoration Funds to carry out the provisions of Title 34 are made available in two ways:

1. Non-Federal Contributions for a specific purpose are available for expenditure without Congressional action. These funds can only be expended for the expressed purposes of the contributions and, in contrast to the Discretionary Payments and Non-Discretionary Revenues, are not subject to appropriation.
2. All remaining funds (which can vary from \$0 to as much as \$50 million annually) (October 1992 prices) are made available by Congress through appropriations for use by the Secretary to carry out the provisions of Title 34.

All Non-Discretionary Revenues are automatically received and deposited into the Restoration Fund. However, these receipts cannot be used unless and until appropriated by Congress. At least through fiscal year 1997, the other source of Restoration Funds -- the Discretionary Payments -- are to be assessed and collected in response to, and to the extent required by, Congressional appropriations. Restoration Fund revenues do not need to be collected prior to expenditure by the Secretary, provided there is a reasonable expectation that the funds will be collected as provided in these Interim Guidelines in the subject fiscal year, and the applicable appropriations do not mandate advance collection.

Annually, the Secretary will develop a budget and request the appropriation of funds from the Restoration Fund for Title 34 activities. A portion of those funds will be derived from the projected collection of Non-Discretionary Revenues. Appropriate language will be included in the budget request to raise the remaining amount, if any, through assessment and collection of Discretionary Payments. However, at least through fiscal year 1997, the final amount of Restoration Fund collections and amounts to be made available, if any, from the Restoration Fund each year is the prerogative of the Congress and is to be decided through the appropriation process.

DIAGRAM 1

REVENUES TO BE APPLIED TO THE RESTORATION FUND,
CENTRAL VALLEY PROJECT, TITLE 34, PUBLIC LAW 102-575

***** - Voluntary

² The Restoration Payments will remain Discretionary Payments at least through fiscal year 1997. If annual appropriations following enactment of Title 34 do not equal \$50 million (October 1992 price levels), the Secretary shall impose Restoration Payments each year thereafter sufficient to collect annually \$50 million (October 1992 price levels). Under such circumstances, Restoration Payments become Non-Discretionary Payments.

PART A

DEFINITIONS

As used herein, the term:

1. "Act" means the Central Valley Project Improvement Act (CVPIA), Title XXXIV of Public Law 102-575, enacted October 30, 1992.
2. "Project" means the Central Valley Project, California.
3. "Secretary" means the Secretary of the Interior, or his designee.
4. "Project Water" means all water that is developed, diverted, stored or delivered by the Secretary in accordance with the statutes authorizing the Central Valley Project and in accordance with the terms and conditions of water rights acquired for the Central Valley Project pursuant to California law.
5. "Water Contractor" shall mean any entity or individual who is a party to a Water Service Contract, a Repayment Contract or a Water Rights Settlement Contract with the United States for a Project Irrigation and/or Municipal and Industrial Water supply, which may be supplemental to a non-Project water supply, pursuant to Section 9 of the Reclamation Project Act of 1939, as amended and supplemented.
6. "Irrigation Water" means Project Water to be used for agricultural purposes as set forth in the Water Contractor's Water Service, Repayment or Water Right Settlement Contract.
7. "Municipal and Industrial (M&I) Water" means Project Water to be used for other than agricultural purposes as set forth in the Water Contractor's Water Service, Repayment or Water Rights Settlement Contract.
8. "Repayment Contract" means a contract with the United States providing Project Water pursuant to subsections (c)(1) and/or (d) of Section 9 of the Reclamation Project Act of 1939.
9. "Water Service Contract" means a contract with the United States providing Project Water pursuant to subsections (c)(2) and/or (e) of Section 9 of the Reclamation Project Act of 1939, including Water Rights Settlement Contracts which provide for the delivery of supplemental Project Water.
10. "Warren Act Contract" means a contract with the United States providing for the storage and/or conveyance of non-Project Water in and/or through Project facilities pursuant to the Act of February 21, 1911 (Public Law

61-406), as supplemented by Section 305 of Public Law No. 102-250 and subsection 3408(c) of Public Law No. 102-575, between the United States and an entity .

11. "Water Rights Settlement Contract" means a contract with the United States providing a supply of Base Water pursuant to Section 14 of the Reclamation Project Act of 1939 (1939 Act) and probably but not necessarily a supplemental supply of Project Water pursuant to Section 9 of the 1939 Act, as amended and supplemented.
12. "Base Water" means the quantity of non-Project Water made available to a Water Contractor without payment to the United States and without application of the acreage limitation provisions of Federal reclamation law as specified in a Water Rights Settlement Contract with the United States,
13. "Exchange Water" means the Project Water made available during each year to the Exchange Contractors pursuant to the Exchange Contracts without payment to the United States and without application of the acreage limitation provisions of Federal Reclamation law.
14. "Exchange Contract" means a contract with the United States entered into pursuant to Section 14 of the Reclamation Project Act of 1939, as amended and supplemented, providing a supply of Project Water to an Exchange Contractor in lieu of the Exchange Contractor exercising certain rights to the use of other waters.
15. "Exchange Contractors" means the entities or individuals who are parties to an Exchange Contract with the United States for an Exchange Water supply pursuant to Section 14 of the Reclamation Project Act of 1939, as amended and supplemented.
16. "Additional Project Water" means that Project Water made available by the United States to a Water Contractor in a given year which is in excess of the maximum total quantity of Project Water specified in the long-term Water Service, Repayment or Water Rights Settlement Contract with the Water Contractor.
17. "Flood Water" means a temporary Project Water supply made available to a Water Contractor as a result of an unusually large water supply not otherwise storable for Project purposes or infrequent and otherwise unmanageable flood flows of short duration.
18. "Delivered Project Water" means all Project Water scheduled by the Water Contractors or Exchange Contractors for delivery by the United States consistent with the terms of the applicable contract and made available by the United States at the approved point(s) of delivery, less that Project Water which is not diverted but remaining under the physical control of the Project (e.g., in a Project canal).
19. "Section 215 Water" means Flood Water made available to the Water Contractor for agricultural purposes without application of the acreage

limitations and/or the full-cost provisions of Federal reclamation law pursuant to a contract with the United States. [See 43 CFR Section 426.13(a)(3).1]

20. "Cost of Service Water Rate" means the annual charge for Irrigation Water and M&I Water established pursuant to the then applicable Project Water ratesetting policy which will recover all costs assigned to the Irrigation and M&I Water supply functions, respectively, within the established repayment period.
21. "Irrigation Full Cost Rate" means the annual charge described in paragraph (3) of Section 202 of the Reclamation Reform Act of 1982 (RRA), which, as determined by the Secretary, amortizes the expenditures for construction allocable to Project irrigation facilities in service, including all operation and maintenance (O&M) deficits funded, less payments, over such periods as may be required under Federal reclamation law or applicable contract provisions, with interest on both accruing from October 12, 1982, on costs outstanding at that date, or from the date incurred in the case of costs arising subsequent to October 12, 1982.
22. "M&I Full Cost Rate" means the annual charge described in paragraph (3) of Section 202 of the RRA, which, as determined by the Secretary, shall amortize the expenditures for construction allocable to M&I facilities in service, including all operation and O&M deficits funded, less payments, over such periods as may be required under Federal reclamation law or applicable contract provisions, with interest on both accruing from the dates such costs were first incurred.
23. "Non-Discretionary Payments" means those payments and charges required by the Act to be assessed and collected by the Secretary independent of the level of Congressional appropriations relative to the Central Valley Project Restoration Fund.
24. "Non-Discretionary Revenues" means those incremental revenues which are accrued as a result of the annual collection of the Non-Discretionary Payments required by the Act and which exceed the amounts that would have been collected in the absence of the requirement to pay the Non-Discretionary Payments.
25. "Discretionary Payments" means those payments and charges required by the Act to be assessed and collected by the Secretary as may be required by Congress through the annual appropriations process.³

³ "Discretionary Revenues" are the same as "Discretionary Payments" as 100 percent of the Discretionary Payments are to be credited to the Restoration Fund. Accordingly, there is no need to include a definition of "Discretionary Revenues."

26. "Transfer Revenue" means that portion of the Transferred Water Rate as described in Part E of the Interim Guidelines which is in excess of the Water Contractor's Cost of Service Water Rate, if applicable, and is to be credited to the Restoration Fund in the absence of the requirement to pay the Irrigation Full Cost Rate pursuant to the RRA.
27. "Ability to Pay" is that portion of the increased net farm income attributable to the off farm water supply (supplies) after allowances have been made for returns to farm investment and to family labor and management.

PART B

DEPOSITS TO THE RESTORATION FUND

[Subsection 3407(a)]

1. Revenues to be Deposited

The Restoration Fund shall serve as the depository in the Treasury of the United States for all revenues received by the Secretary from the following sources:

- a. ✓ **Pre-Renewal Charges** [subsection 3404(c)(3)] - Described in Part C of these Interim Guidelines
- b. ✓ **Tiered Water Revenues** [subsection 3405(d)] - Described in Part D of these Interim Guidelines
- c. ✓ **Transfer Revenues** [subsection 3405(a)(1)(B)] - Described in Part E of these Interim Guidelines
- d. ✓ **Friant Surcharges** [subsection 3406(c)(1)] - Described in Part F of these Interim Guidelines
- e. ✓ **M&I Surcharges** [subsection 3407(d)(2)(A)] - Described in Part G of these Interim Guidelines
- f. ✓ **Restoration Payments** [subsection 3407(c) & (d)] - Described in Part H of these Interim Guidelines
- g. ✓ **Non-Federal Contributions** [subsection 3407(a)] - Described in Part J of these Interim Guidelines

All interest and penalty charges collected for delinquent payment of Restoration Fund payments and charges required by this Act shall be deposited to the Restoration Fund, but will not be credited to the Water Contractor or Power. All administrative charges collected for past due payment of Restoration Fund charges and payments shall be deposited to the Treasury of the United States without credit to the Water Contractor or Power.

2. Contractor Accounts

On behalf of the Secretary, Reclamation shall keep accounts of all payments deposited in the Restoration Fund on behalf of each Water Contractor and of the total payments received from Power. Deposits to the Restoration Fund which are used to pay for the projects, studies or facilities set forth in subsection 3406(b)⁴ of the Act shall offset an equal amount of the Water Contractors' or Power's assigned repayment obligations resulting from the implementation of any activities described in the Act.

⁴ Many subsection 3406(b) activities are wholly or partially reimbursable. Costs assigned to the reimbursable functions, including power and water, are to be allocated and recovered consistent with conventional Reclamation law and policy. Construction costs are usually capitalized through the power and water rates. In the event Restoration Funds are used to "upfront finance" subsection 3406(b) activities, the CVPIA requires that all amounts so used be immediately credited to the Water Contractors and Power.

PART C

PRE-RENEWAL CHARGES

[Subsection 3404(c)(3)]

1. Applicability

Beginning on October 1, 1997, or January 1 following the calendar year of completion of the programmatic environmental impact statement (PEIS) required by Section 3409 of the Act, whichever occurs first, all Water Contractors having an existing Water Service, Repayment or Water Rights Settlement Contract which was in effect on October 30, 1992, excepting those Water Contractors specifically exempted as described below, shall be assessed annually a pre-renewal mitigation and restoration payment (hereafter referred to as Pre-Renewal Charges) for each acre-foot of Delivered Project Water.

For the purposes of applying the Pre-Renewal Charges, Project Water shall include any Project Water provided under a Water Rights Settlement Contract, Additional Project Water, and/or Project Water transferred to a transferee(s) pursuant to an approved transfer. Such assessments shall cease on the effective date of renewal of the Water Service, Repayment or Water Rights Settlement Contract.

Water Contractors shall not be assessed Pre-Renewal Charges if one of the following conditions is met:

- a. The Water Contractor's existing Water Service, Repayment or Water Rights Settlement Contract was renewed between January 1, 1988, and October 30, 1992, or;
- b. If the PEIS is not completed by October 1, 1997, and prior to that date the Water Contractor enters into a binding agreement with the United States to renew the existing Water Service, Repayment or Water Rights Settlement Contract immediately upon completion of the PEIS and all other documentation as may be required by the National Environmental Policy Act.

Pre-Renewal Charges are not applicable to Base Water, Exchange Water, Section 215 Water, Flood Water, or Warren Act Contract water.

2. Rescheduled Water⁵

With the exception of Water Contractors specifically exempt from Pre-Renewal Charges as provided above, Pre-Renewal Charges will be applicable under certain circumstances to Project Water which is rescheduled from one water year (e.g., water year X) to a later water year (e.g., water year X+1). Because the Act applies Pre-Renewal Charges only to Delivered Project Water, rescheduled Project Water which is delivered to a Water Contractor or a transferee pursuant to an approved transfer following the effective date of application of the Pre-Renewal Charges shall be assessed Pre-Renewal Charges at the rate applicable to the Water Contractor in the year of actual delivery (e.g., year X+1).

3. Banking of Transferred Water

In those instances when transferred Project Water is banked with an intermediary (third) party for the principal purpose of providing a future water supply⁶ to the transferee, the water shall be treated as Delivered Project Water upon delivery to the intermediary and not when withdrawn from the bank. The Pre-Renewal Charges shall be those in effect in the year of delivery to the intermediary.

4. Payments

The Pre-Renewal Charge shall equal one and one-half times the Restoration Payments applicable to the Water Contractor for Irrigation and/or M&I Water as described in Part H of these Interim Guidelines.

Pre-Renewal Charges must be paid to the United States by the Water Contractor prior to the effective date of renewal of the Water Contractor's existing Water Service or Repayment Contract.

5. Type of Water Use

For the purpose of applying Pre-Renewal Charges to Project Water, the type of Project Water use (Irrigation or M&I) and the resulting rate to be paid shall be consistent with the actual use of such water by the Water Contractor or a transferee(s) pursuant to an approved transfer. In those instances when the Project Water is banked with an intermediary for the principal purpose of providing a future water supply to a transferee, the type of water shall be consistent with the ultimate intended use by the transferee consistent with the applicable transfer agreement.

⁵ All proposals to reschedule Project Water to a later water year must be approved by Reclamation.

⁶ The future water supply may be accomplished through a water exchange.

6. Relationship to Other Payments and Surcharges

Pre-Renewal Charges shall be paid by the Water Contractor (the transferor) in addition to any other applicable payments or charges as required by the Act and other applicable provisions of Federal reclamation law (hereafter referred to as reclamation law). Transferees are not responsible for payment to the United States of Pre-Renewal Charges.

7. Revenues to be Credited to the Restoration Fund

All Pre-Renewal Charges shall be credited to the Restoration Fund described in Part B of these Interim Guidelines.

PART D

TIERED WATER RATES

[Subsection 3405(d)]

1. Applicability

New, renewed and amended Water Service, Water Rights Settlement or Repayment Contracts which are executed after October 30, 1992, and which have a term longer than three years are subject to the Tiered Water Rate provisions of the Act. Pursuant to such contracts, Tiered Water Rates shall be applied to all Delivered Project Water, including that provided under a Water Rights Settlement Contract, Additional Project Water and Project Water transferred pursuant to an approved transfer.

Tiered Water Rates shall not be applied to Base Water, Exchange Water, Section 215 Water, Flood Water, Warren Act Contract water; or to Project Water used to produce a crop that the Secretary determines, in writing, provides significant and quantifiable waterfowl habitat in the fields where the water is used and the crops are produced, provided such deliveries are made and used consistent with the terms of a binding agreement to be signed by the Water Contractor, the participating landholder(s), and the United States.

Project Water not subject to Tiered Water Rates shall be paid for at the rate otherwise applicable to such water.

2. Calculation and Application of Tiered Water Rates

Tiered Water Rates shall be computed annually by Reclamation consistent with the following criteria:

- a. First Tier: Up to and including the first 80 percent of the Water Contractor's maximum combined contractual Project Water entitlement (including Irrigation, M&I, Class 1, and Class 2 Water, if any; but excluding Base, Exchange, Flood, Section 215, and Warren Act Contract water, if any) shall be paid for by the Water Contractor at the applicable contract water rate(s).
- b. Second Tier: Water in excess of 80 percent and up to and including 90 percent of the Water Contractor's maximum combined contractual Project Water entitlement shall be paid for by the Water Contractor at the following applicable rates:
 - (1) Irrigation Water: a rate equal to the average of the otherwise applicable contract rate for Irrigation Water and the applicable Irrigation Full Cost Rate.

- (2) M&I Water: a rate equal to the average of the otherwise applicable contract rate for M&I Water and the applicable M&I Full Cost Rate.

- c. Third Tier: Water in excess of 90 percent of the Water Contractor's maximum combined contractual Project Water entitlement, if any, shall be paid for by the Water Contractor at the applicable Full Cost Rate.

Irrigation Full Cost Rates are calculated pursuant to the applicable provisions of the RRA. The Irrigation Full Cost Rates include components to recover applicable operation and maintenance (O&M) costs, accumulated deficits, capital costs, and interest on unpaid capital costs. Irrigation Full Cost Rates are computed to recover O&M costs within the year incurred; accumulated deficits within the authorized repayment period; and capital costs amortized at the applicable RRA interest rate over the remaining repayment period.

M&I Full Cost Rates are calculated pursuant to a similar procedure to that used for computing the Irrigation Full Cost Rates.

Consistent with the above, a Water Contractor shall not be subject to the Second and Third Tier water rates if the cumulative total of all Project Water delivered to the Water Contractor and/or a transferee(s) in a given contract year equals 80 percent or less of the Water Contractor's maximum combined contractual Project Water entitlement.

Pursuant to these Interim Guidelines, all Additional Project Water, if any, but excepting that providing significant and quantifiable waterfowl habitat, shall be charged at the applicable Third Tier rate.

3. Rescheduled Water⁷

Tiered Water Rates will be applicable under certain circumstances to that Project Water which is rescheduled for delivery from one water year (e.g., water year X) to a later water year (e.g., water year X+1). Because the Act applies Tiered Water Rates only to Project Water actually delivered, rescheduled Project Water is not subject to Tiered Water Rates unless and until delivered to the Water Contractor or a transferee(s) pursuant to an approved transfer, provided the subject Water Contractor is subject at the time of delivery to Tiered Water Rates consistent with the above Applicability provisions (subsection 1 of Part D).

The applicable Tiered Water Rates shall be those in effect in the year of actual delivery (e.g., water year X+1). However, the Second and Third Tier rates shall be applied only if the amount of rescheduled water delivered in

⁷ All proposals to reschedule the delivery of Project Water to a later water year must be approved by Reclamation.

the later year (e.g., water year X+1) when added to the Project Water otherwise delivered in the later water year exceeds 80 and 90 percent, respectively, of the maximum contractual entitlement applicable in the later water year (e.g., water year X+1).

4. Banking of Transferred Water

In those instances when transferred Project Water is banked with an intermediary (third) party for the principal purpose of providing a future water supply to the transferee, the water shall be regarded as Delivered Project Water when delivered to the intermediary party and not when withdrawn from the bank.

5. Type of Water Use

For the purpose of applying Tiered Water Rates to Project Water transferred pursuant to the Act, the type of water use (Irrigation or M&I) and the rate to be paid shall be consistent with the actual use of the water by the Water Contractor or by the transferee. In those instances when the Project Water is banked with an intermediary for the principal purpose of providing a future water supply to a transferee, the type of water shall be consistent with the ultimate intended use by the transferee consistent with the applicable transfer agreement.

6. Determination of Tiered Water Rate Threshold Percentages

Reclamation's water delivery records, which document the monthly and cumulative quantities of Delivered Irrigation and M&I Project Water, shall be used to determine the water deliveries, if any, in excess of 80 and 90 percent of the maximum combined contractual entitlement.

7. Payments Due, Late Payments and Adjustments

Tiered Water Rates shall be paid in accordance with the payment terms included in the Water Contractor's then existing Water Service or Repayment Contract. Similarly, specifics regarding past due payment of Tiered Water Rates shall be accomplished in a manner consistent with the terms included in the Water Contractor's then existing Water Service or Repayment Contract.

Transferees are not responsible for payment to the United States of the Tiered Water Rates which may be applicable to Project Water transferred into their respective service areas.

8. Relationship to Other Payments and Surcharges

The responsibility of the Water Contractor to pay the applicable Tiered Water Rates as described above shall be in addition to all other payments required by the Act and other applicable provisions of reclamation law.

In the event Project Water is concurrently subject to a Tiered Water Rate, a Full Cost Rate under the RRA and/or a Transferred Water Rate (see Part E of these Interim Guidelines), the Water Contractor shall be required to pay the higher (highest) of the applicable rates. (The application of this procedure is shown in the examples included in Appendix A).

9. Revenues to be Credited to the Restoration Fund

All revenues received over and above what would otherwise have been collected as a result of the application of the Tiered Water Rates (hereinafter referred to as Tiered Rate Revenues) shall be credited to the Restoration Fund as provided in Part B of these Interim Guidelines. In the absence of the requirement to pay the Irrigation Full Cost Rate pursuant to the RRA, Tiered Rate Revenues shall consist of those revenues which exceed the Water Contractor's assigned Cost of Service Rate(s).⁸ No Tiered Rate Revenues shall be deposited or credited to the Restoration Fund for water otherwise subject to the Irrigation Full Cost Rate provisions of the RRA.

10. Requests for Waterfowl Habitat Exemption

The Water Contractor is responsible for submitting formal requests and necessary documentation for consideration for an exemption from Tiered Water Rates based upon waterfowl habitat value. (Criteria for waterfowl habitat exemption are to be developed by the United States Fish and Wildlife Service.)

⁸ In the event the Water Contractor is subject to both the Transferred Water Rate and Tiered Water Rate provisions of this Act (but not the Irrigation Full Cost Rate), the total credited amount of Tiered Rate Revenues and Transfer Revenues per acre-foot shall not exceed the absolute difference between the highest rate required to be paid and the Cost of Service Rate.

PART E

TRANSFERRED WATER RATES

[Subsection 3405(a)(1)(B)]

1. Applicability

All Project Water, including Class 1 Water, Class 2 Water, and Project Water provided pursuant to a Water Rights Settlement Contract, which is transferred pursuant to the transfer provisions of the Act from a Water Contractor to an entity (transferee) which was not a Water Contractor on October 30, 1992,⁹ and is used by the transferee as:

- a. Irrigation Water shall be paid for by the Water Contractor at the Full Cost Rate applicable to the Water Contractor.
- b. M&I Water shall be paid for by the Water Contractor at the M&I water rate applicable to the Water Contractor as determined by Reclamation consistent with the then current Project M&I ratesetting policy and applicable reclamation law.

All Exchange Water which is transferred pursuant to the transfer provisions of the Act from an Exchange Contractor to an entity (transferee) which was not a Water Contractor on October 30, 1992, and is used by the transferee as:

- a. Irrigation Water shall be paid for by the Exchange Contractor at the Full Cost Rate which would be applicable to the Exchange Contractor if required to pay for Project water consistent with the then current Project irrigation ratesetting policy and applicable reclamation law.
- b. M&I Water shall be paid for by the Exchange Contractor at the M&I rate which would be applicable to the Exchange Contractor if required to pay for Project water consistent with the then Project M&I ratesetting policy and applicable reclamation law.

Irrigation and M&I Full Cost Rates applicable to the Exchange Contractors are to be calculated similarly to those computed for Water Contractors. Unlike Water Contractors, there are no surpluses or deficits applicable to the yearly

⁹ Entities which held short-term or interim Water Service Contracts in effect on October 30, 1992, without a right of renewal may be a recipient of transferred Project Water pursuant only to the authority of Section 3405 of the CVPIA. Such entities do not qualify for within-Project ("Contractor to Contractor") transfers following expiration of the Water Service Contract in effect on October 30, 1992.

Project water operations performed on the behalf of the Exchange Contractors. Accordingly, surpluses or deficits are not reflected in Irrigation or M&I Full Cost Rates applicable to Exchange Contractors.

The Transferred Water Rates described above do not include charges for additional Project services, if any, which may be needed to effectuate a transfer from a Water Contractor or an Exchange Contractor to a transferee. Charges for such additional Project services shall be computed based on the specific circumstances of the proposed transfer.

The Transferred Water Rates are not applicable to Base Water or Warren Act Contract deliveries. In addition, transfers of Project Water between entities qualifying as Project Water Contractors on October 30, 1992,¹⁰ are not subject to the Transferred Water Rate provisions of the Act.

2. Rescheduled Water¹¹

Transferred Water Rates are applicable to Project Water which is rescheduled from one water year to a later water year and delivered pursuant to an approved transfer agreement with the United States to a transferee which was not a Water Contractor on October 30, 1992. Because the Act applies Transferred Water Rates only to Project Water actually delivered, rescheduled Project Water is not subject to Transferred Water Rates until physically delivered to such a transferee. Water which is rescheduled from one water year and delivered in a later water year (e.g., water year X+1) to a transferee shall be subject to the Water Contractor's applicable Transferred Water Rates in effect in the year of delivery (e.g., water year X+1).

3. Banking of Transferred Water

In those instances when transferred Project Water is banked with an intermediary (third) party for the principal purpose of providing a future water supply to the transferee, the water shall be regarded as Delivered Project Water upon delivery to the intermediary and not when withdrawn from the Bank.

4. Type of Water Use

For the purpose of administering the Transferred Water Rate provisions of the Act, the manner in which Project Water is used (as Irrigation Water or M&I Water) and the resulting rate to be paid shall be consistent with the actual use of such water by the transferee(s). In those instances when Project Water

¹⁰ See footnote 9.

¹¹ All proposals to reschedule water to a later water year must be approved by Reclamation.

is banked with an intermediary, the type of water use shall be consistent with the ultimate intended use by the transferee consistent with the applicable transfer agreement.

5. Payments Due, Delinquent Payments and Adjustments

- a. **Water Contractors.** The Water Contractor (the transferor) is responsible for full payment of all applicable Transferred Water Rates for Project Water transferred by the Water Contractor pursuant to the transfer provisions of the Act.

Notwithstanding any requirements for the advance payment for Project Water as may be required by the applicable Water Service or Repayment Contract, the total amount of Transferred Water Rate payments, if any, owed for Project Water delivered to a transferee(s) or an intermediary is due and payable by the Water Contractor by the end of the month following the month of delivery. Such amounts shall be consistent with the quantities of Project Irrigation and M&I Water shown in Reclamation's water delivery report for the subject month. The water delivery report shall be regarded by the Water Contractor as a bill for all Transferred Water Rate payments.

Any adjustments for overpayment or underpayment shall be accomplished through the adjustment of Transferred Water Rate payments or other charges due to the United States relative to the subject Water Service or Repayment Contract and payable in the next month.

Past due payment of Transferred Water Rates shall be accomplished in a manner consistent with the past due terms included in the Water Contractor's then existing Water Service or Repayment Contract.

- b. **Exchange Contractors.** The Exchange Contractors are responsible for full payment of all Transferred Water Rates for Exchange Water transferred pursuant to the transfer provisions of the Act. The total amount of Transferred Water Rate payments, if any, owed for water delivered to a transferee(s) or an intermediary is due and payable by the Exchange Contractor by the end of the month following the month of delivery. Such amounts shall be consistent with the quantities of Project Irrigation and M&I Water shown in Reclamation's water delivery report for the subject month. The water delivery report shall be regarded by the Exchange Contractor as a bill for all Transferred Water Rate payments.

Any adjustments for overpayment or underpayment shall be accomplished through the adjustment of Transferred Water Rate payments due to the United States relative to the subject Exchange Contract and payable in the next month. In the absence of such future payments in the next month, overpayment shall be refunded to the Exchange Contractor.

Specifics regarding past due payment of Transferred Water Rates shall be accomplished in a manner consistent with the terms included in Appendix B herein.

c. Transferees. Transferees are not responsible for payment to the United States of Transferred Water Rates which may be applicable to Project Water transferred into their respective service areas.

6. Relationship to Other Payments and Surcharges

The responsibility of the Water Contractor or Exchange Contractor to pay the applicable Transferred Water Rates as described above shall be in addition to all other payments required by the Act and other applicable provisions of reclamation law.

In the event Project Water is concurrently subject to the Transferred Water Rate provisions of this Act, an Irrigation Full Cost Rate as required by the RRA and/or a Tiered Water Rate (see Part D of these Interim Guidelines), the Water Contractor or Exchange Contractor shall pay the higher (highest) of the applicable rates. (The application of this procedure is shown in the examples included in Appendix A).

7. Revenues to be Credited to the Restoration Fund

In the absence of the requirement to pay the applicable Irrigation Full Cost Rate pursuant to the RRA, all Transferred Water Rate payments in excess of the Water Contractor's Cost of Service Rate (hereafter referred to as Transfer Revenues) shall be calculated and credited by Reclamation to the Restoration Fund.¹²

In the absence of the requirement to pay the applicable Irrigation Full Cost Rate pursuant to the RRA, Transferred Water Rate payments required to be made for the transfer of Exchange Contractor water to an entity which was not a Water Contractor on October 30, 1992, shall be deposited in full to the Restoration Fund.

No Transfer Revenues shall be deposited or credited to the Restoration Fund for Project Water otherwise subject to the Irrigation Full Cost Rate provisions of the RRA as such revenues shall be credited in the normal manner for RRA receipts.

¹² In the event the Water Contractor is subject to both the Transferred Water Rate and Tiered Water Rate provisions of this Act (but not the Irrigation Full-Cost Rate), the total credited amount of Tiered Rate Revenues and Transfer Revenues per acre-foot shall not exceed the absolute difference between the highest rate required to be paid and the cost-of-service rate.

PART F

FRIANT SURCHARGES

[Subsection 3406(c)(1)]

1. Applicability

Beginning on October 31, 1992, all Water Contractors who receive Project Water from the Friant Division pursuant to a Water Service, Water Rights Settlement or Repayment Contract shall pay to the United States the applicable Friant Surcharge for each acre-foot of Delivered Project Water, including Class 1 and Class 2 Water; Flood Water used for M&I purposes; Section 215 Water; Additional Project Water; Project Water provided pursuant to a Water Rights Settlement Contract; and/or Project Water delivered to a transferee(s) pursuant to an approved transfer(s).

The Friant Surcharges shall continue until such time as flows of sufficient quantity, quality and timing are provided at or below Gravelly Ford to meet the anadromous fishery needs of the San Joaquin River identified in a plan to be developed by the Secretary and approved by an act of Congress.

Friant Surcharges are not applicable to Warren Act Contract or Base Water deliveries.

2. Rescheduled Water¹³

Friant Surcharges are applicable to Project Water which is released from Friant Division facilities and rescheduled from one water year (e.g., water year X) and delivered in a later water year (e.g., water year X+1). Because the Act applies Friant Surcharges only to Project Water actually delivered, rescheduled Project Water which is delivered to a Water Contractor, a transferee or intermediary on behalf of the transferee shall be subject to Friant Surcharges applicable to the Water Contractor in the year of actual delivery (e.g., year X+1).

3. Banking of Transferred Water

In those instances when transferred Friant Division Project Water is banked with an intermediary (third) party for the principle purpose of providing a future water supply to the transferee, the water shall be treated as Delivered

¹³ All proposals to reschedule Project Water to a later water year must be approved by Reclamation.

Project Water upon delivery to the intermediary party and not when withdrawn from the Bank. The Friant Surcharges shall be those in effect in the year of delivery to the intermediary.

4. The Friant Surcharges

The Friant Surcharges shall be: (a) \$4.00 per acre-foot of Delivered Project Water before or on September 30, 1997; (b) \$5.00 per acre-foot of Delivered Project Water after September 30, 1997, and through September 30, 1999; and (c) \$7.00 per acre-foot for all Delivered Project Water thereafter.

5. Payments Due, Delinquent Payments, and Adjustments

The Water Contractor is responsible for full payment of all Friant Surcharges for Project Water delivered to the Water Contractor, or a transferee or intermediary pursuant to an approved transfer. The total amount of Friant Surcharges is due and payable by the Water Contractor by the end of the month following the month of delivery. Such amounts shall be consistent with the quantities of Project Water shown in Reclamation's water delivery report for the subject month. The water delivery report shall be regarded by the Water Contractor as a bill for all Friant Surcharge payments.

Any adjustments for overpayment or underpayment shall be accomplished through the adjustment of Friant Surcharges or other charges due to the United States relative to the subject Water Service or Repayment Contract and payable in the next month.

The amount to be paid for past due payment of the Friant Surcharges shall be computed in a manner consistent with the terms included in the Water Contractor's then existing Water Service or Repayment Contract.

Transferees are not responsible for payment to the United States of Friant Surcharges applicable to Project Water transferred to them for their use.

6. Relationship to Other Payments and Surcharges

The responsibility of the Water Contractor to pay Friant Surcharges as described above shall be in addition to all other charges required by this Act and other applicable reclamation law.

7. Revenues to be Credited to the Restoration Fund

All Friant Surcharge Revenues shall be credited to the Restoration Fund described in Part B of these Interim Guidelines.

PART G

M&I SURCHARGES

[Subsection 3407(d)(2)(A)]

1. Applicability

Reclamation shall assess and collect an annual charge, hereafter referred to as the M&I Surcharge, for all Project Water which is used for M&I purposes and:

- a. Sold by the United States pursuant to a new Water Service, Water Rights Settlement or Repayment Contract to an entity which was not a Water Contractor prior to October 31, 1992,¹⁴ or
- b. Transferred by an existing¹⁵ Water Contractor or Exchange Contractor to an entity which was not a Water Contractor prior to October 31, 1992.¹⁴

The M&I Surcharge shall be paid in addition to the Transferred Water Rates which may be applicable to Project Water transferred for M&I purposes pursuant to the Act (See Part E of these Interim Guidelines.)

For the purposes of administering the M&I Surcharge, Project Water shall include Class 1 and Class 2, Flood, Section 215, Exchange, Project Water provided by a Water Rights Settlement Contract, and/or Additional Project Water, if any.

The M&I Surcharge is not applicable to Base Water or Warren Act Contract deliveries.

2. Rescheduled Water¹⁶

M&I Surcharges are applicable to Project Water which is rescheduled by an existing Water Contractor from one water year (e.g., water year X) to a later water year (e.g., water year X+1) and ultimately delivered to a transferee for

¹⁴ For the purposes of applying M&I Surcharges, entities which held only short-term or interim Water Service Contracts prior to October 31, 1992, without right of renewal, are regarded as not having been a Water Contractor prior to October 31, 1992.

¹⁵ "Existing" shall mean having the status of a Water Contractor or Exchange Contractor on October 30, 1992.

¹⁶ All proposals to reschedule water to a later water year must be approved by Reclamation.

use as M&I water pursuant to an approved transfer agreement. Similarly, any rescheduled Project Water which is provided by the United States pursuant to a new Water Service or Repayment Contract to an entity which was not a Water Contractor prior to October 31, 1992, and used for M&I purposes is subject to M&I Surcharges. The M&I Surcharges shall be applicable in the year of delivery of the rescheduled water. The M&I Surcharges shall be those in effect in the year of actual delivery (e.g., water year X+1).

3. Banking of Transferred Water

In those instances when transferred Project Water is banked with an intermediary (third) party for the principal purpose of providing a future water supply to the transferee, the water shall be regarded as delivered to the transferee upon delivery to the intermediary and not when withdrawn from the Bank. All transferred Project Water which is banked with an intermediary shall be treated as M&I Water if the ultimate intended use by the transferee is for M&I purposes consistent with the applicable transfer agreement.

4. The M&I Surcharge

The M&I Surcharge shall be \$25.00 (October 1992 price levels) per acre-foot of Delivered Project Water. The M&I Surcharge shall be adjusted annually by Reclamation solely to reflect fluctuations in costs as projected by the Office of the Management and Budget for use in developing Reclamation's annual budgets (hereafter referred to as OMB escalation factors).

5. Payment Due, Delinquent Payments and Adjustments

Relative to new Water Service, Water Rights Settlement or Repayment Contracts, the M&I Surcharge shall be the repayment responsibility of the Water Contractor. Pursuant to a water transfer, the M&I Surcharge shall be the repayment responsibility of the applicable Water Contractor or Exchange Contractor (the transferor).

Relative to new contracts, the total amount of M&I Surcharges, if any, owed by the Water Contractor for water diverted by the Water Contractor, a transferee(s), or an intermediary party, is due and payable by the end of the month following the month of delivery. Such amounts shall be consistent with the quantities of Project M&I Water shown in Reclamation's water delivery report for the subject month. The water delivery report shall be regarded by the Water Contractor as a bill for all M&I Surcharge payments.

Pursuant to a water transfer, the total amount of M&I Surcharges, if any, owed by the Water Contractor or Exchange Contractor for water diverted by an transferee or an intermediary, is due and payable by the end of the month following the month of delivery. Such amounts shall be consistent with the quantities of Project M&I Water transferred as shown in Reclamation's water

delivery report for the subject month. The water delivery report shall be regarded by the Water Contractor or Exchange Contractor as a bill for the M&I Surcharges.

Any adjustments for overpayment or underpayment shall be accomplished through the adjustment of M&I Surcharges or other charges due to the United States relative to the subject water service or repayment contract and payable in the next month. In the absence of any additional imminent repayment obligations to the United States by the Exchange Contractor, any overpayment shall be refunded to the Exchange Contractor.

The amount to be paid for past due payment of M&I Surcharges by Water Contractors shall be computed in a manner consistent with the terms included in the Water Contractor's then existing Water Service, Water Rights Settlement or Repayment Contract. The amount to be paid for past due payment of M&I Surcharges by Exchange Contractors shall be computed consistent with the provisions of Appendix B as included herein.

Transferees are not responsible for payment to the United States of the M&I Surcharges applicable to Project Water transferred to them.

6. Relationship to Other Payments and Surcharges

The responsibility of the Water Contractor or Exchange Contractor to pay the M&I Surcharge is in addition to all other charges required by this Act and other applicable reclamation law.

7. Revenues to be Credited to the Restoration Fund

All M&I Surcharge revenues shall be credited to the Restoration Fund described in Part B of these Interim Guidelines.

PART H

RESTORATION PAYMENTS

[Subsection 3407(c) & (d)]

1. Applicability

Section 3407 of the Act provides that to the extent required in Congressional acts appropriating funds to partially finance the costs to carry out "programs, projects, plans, and wildlife restoration, improvement and acquisition provisions" of the Act, Reclamation shall:

- a. Determine, assess, and collect additional annual mitigation and Restoration payments (hereafter referred to as Restoration Payments) on Project Irrigation Water and M&I Water, Additional Project Water, Project Water provided pursuant to a Water Rights Settlement Contract, Flood Water used for M&I purposes, and Section 215 Water, if any, which is sold and delivered to the Water Contractors, and
- b. Determine a Power Restoration Payment Obligation to be assigned to Power.

The Western Area Power Administration (Western) shall prorate the Power Restoration Payment Obligation among various power beneficiaries and shall assess the resulting Power Restoration Payments.¹⁷

must be sold or must have a water charge
Restoration Payments shall not be assessed on Base Water, Exchange Water, other Project Water made available without charge to the recipient as provided by applicable reclamation law, or Warren Act Contract deliveries.

2. Objectives and Constraints

The Total Restoration Payment Obligation to be collected for Project M&I Water, Project Irrigation Water and Power (hereafter referred to collectively as the Three Functions) is to be assigned annually consistent with the objectives and constraints set forth below:

- a. All dollar amounts referenced in the Act relative to October 1992 price levels shall be adjusted annually by Reclamation to reflect fluctuations in costs over time. The adjustment shall be accomplished through use of OMB escalation factors.

¹⁷ Western has advised Reclamation that the procedures by which it will prorate, assess and collect the Power Restoration Payment Obligation will be established following a public process to be held by Western.

- b. When the Total Restoration Payment Obligation assigned to the Three Functions (the Discretionary Payments) is combined with all projected Non-Discretionary Revenues to be deposited into the Restoration Fund, if any, in a given fiscal year, the total of all projected revenues shall approximate the appropriated amount for that fiscal year unless:
- (1) The annual average amount appropriated by the Congress prior to fiscal year 1997 is less than the targeted appropriation of \$50 million (October 1992 price levels). Under such circumstances yet consistent with all other objectives and constraints presented herein, the Secretary shall impose Restoration Payments in fiscal year 1998 and thereafter as may be required to yield in each year total collections equal to \$50 million (October 1992 price levels) on a three year rolling average basis.
 - (2) The Secretary has determined that all mitigation and restoration actions required by Section 3406 of the Act are completed. Thereafter, the amount appropriated each year and the total of all Restoration Funds to be collected in each fiscal year thereafter shall be reduced to \$35 million (October 1992 price levels). All other objectives and constraints applicable to Restoration Payments as detailed herein shall remain in full force and effect following the reduction of that ceiling.
- c. The Total Restoration Payment Obligation shall not exceed \$30 million (October 1992 price levels) based upon a three-year rolling average. Following the determination by the Secretary that all mitigation and restoration actions required by Section 3406 are completed, the \$30 million (October 1992 price levels) rolling-average limit shall be reduced to \$15 million (October 1992 price levels). All other objectives and constraints applicable to Restoration Payments as provided herein shall remain in full force and effect following the reduction of that ceiling.
- d. The Restoration Payments shall not exceed \$6.00 and \$12.00 (October 1992 price levels) per acre-foot for Project Irrigation and M&I Water, respectively.
- e. Taking into consideration all Non-Discretionary Revenues and Non-Federal Contributions, if any, the Total Restoration Payment Obligation to be assessed and collected in a given fiscal year shall be proportioned "to the greatest degree practicable" among the Three Functions in such a way that all revenues collected, as measured

through the ten-year rolling average, reflect the Three Functions' respective allocations for repayment of the Project (hereafter, referred to as the Target Allocation¹⁸).

- f. In the event the historic record demonstrates that the Secretary has unintentionally under-collected or conversely over-collected relative to the target cumulative amounts of total Restoration Funds to have been collected, the Secretary shall make adjustments to the Restoration Payments to correct for such under- or over-collections in the next fiscal year consistent with all the other requirements as included herein.

3. The Assignment of Restoration Payments

To meet the above objectives and constraints, Reclamation shall:

- a. Set the Total Restoration Payment Obligation to be collected, including the Power Restoration Payment Obligation, at \$30 million (October 1992 price levels) each and every year unless:
 - (1) The appropriated amount when compared to the most recent projected total of all Non-Discretionary Revenues dictates that a lesser or greater amount than \$30 million (October 1992 price levels) of Restoration Payments is needed during the subject fiscal year to meet the amount appropriated.
 - (2) The three year rolling annual average of the total Restoration Payments based on the two most recent years' actual and the prior fiscal year's most recent Restoration Funds revenue projections indicate that the total Restoration Payments collected during that three-year period shall exceed (or conversely, shall fall short of) the \$30 million (October 1992 price levels) average limit. Reclamation shall adjust the \$30 million (October 1992 price levels) target as appropriate.
 - (3) The rolling average limit has been reduced to \$15 million (October 1992 price levels) as discussed in subsection 2.c. of Part H of these Interim Guidelines. Pursuant to this situation, subsections 3.a (1) and 3.a (2) of Part H will be appropriately modified.
- b. In support of the Target Allocation, Reclamation shall develop and use during each fiscal year the most recent available allocation which will reflect actual project accomplishments for the most

¹⁸ The respective allocations for repayment of the Project shall be exclusive of any Water Contractor obligations to provide for the repayment of distribution and drainage service constructed for or financed by the United States for the exclusive use of individual Water Contractors.

recent completed water year.¹⁹ The use of a rolling 10-year average allocation based upon aggregating over time the individual annual Project allocations will result in the assessment and collection of Restoration Fund revenues -- as may be limited by the other constraints and hydrologic variability -- in amounts expected to be "to the greatest degree practicable" close to the Target Allocation.

- c. In recognition of the (a) absolute ceilings relative to the M&I and Irrigation Restoration Payments; (b) the requirement to assess and collect Restoration Payments from the Three Functions as measured over a ten-year rolling average -- "to the greatest degree practicable" -- in accordance with the Target Allocation; and (c) the expectation that the future Project hydrology will require Power to periodically assume responsibility for Restoration Payment shortfalls by the Water Contractors, the Water Contractors will be automatically charged each and every fiscal year the maximum permitted Restoration Payment per acre-foot [that is, \$6.00 (October 1992 price levels) and \$12.00 (October 1992 price levels) per acre-foot of Project Irrigation and M&I Water, respectively.] (Hereafter, this policy shall be referred to as the Maximum Restoration Payment Policy.) The remaining portion of the Total Restoration Payment Obligation shall be assigned to Power.

The Maximum Restoration Payment Policy shall remain in full force and effect unless and until the record of historic actual revenues demonstrates that the percentage allocations to either or both of the Irrigation and M&I Water supply functions will exceed their allocable shares relative to the Target Allocation.

- d. In the event the Maximum Restoration Payment Policy is discontinued relative to the Irrigation and/or M&I water supplies functions, that portion of the Total Restoration Payment Obligation to be allocated to the Irrigation and/or M&I water supply functions, whichever or both are determined to be in excess of their allocable shares relative to the then Target Allocation, shall be directly calculated through application of the percentage allocation determined by Secretary to be necessary to bring the function closer to the Target Allocation. (Hereafter this procedure shall be referred to as the Direct Calculation Method.) The necessary corrections may be implemented over time as necessary to stabilize the various Restoration Payments impacted by the change in procedure.

¹⁹ Due to the time lag in analyzing actual project accomplishments, the allocation to be used for fiscal year 1998, for example, will in fact reflect actual Project accomplishments for fiscal year 1996. The 10-year rolling allocation for the period fiscal year 1994 through fiscal year 2003, for example, will actually represent project accomplishments from fiscal year 1992 through fiscal year 2001. This procedure represents the "closest" allocation possible relative to concurrent (real-time) Project accomplishments.

The portions of the Total Restoration Payment Obligation assigned to the Project Irrigation and M&I Water supply functions through application of the Direct Calculation Method shall be prorated respectively over all Project Irrigation and M&I Water projected to be sold and delivered during the subject fiscal year, but shall be limited to no more than the applicable Restoration Payment limitations. The remaining portions of the Total Restoration Payment Obligation which are not assigned to the M&I or Irrigation water supply functions through the Direct Calculation Method or the Maximum Restoration Payment Policy, as applied consistent with these Interim Guidelines, shall be assigned to Power.

Application of the Direct Calculation Method does not preclude reinstatement at a later date of the Maximum Restoration Payment Policy as may be appropriate.

A sample calculation illustrating many of the above limits, constraints and procedures applied to a modified 1984 through 1992 hydrology is presented in Appendix C of these Interim Guidelines. Consistent with the example hydrology and various other assumptions explained in Appendix C, the Maximum Restoration Payment Policy remained in full force relative to both the Irrigation and M&I Water supply functions throughout the term of the example.

4. Ability to Pay Limitations

- a. Applicability. The Restoration Payment for Project Irrigation Water may be reduced to reflect a Water Contractor's ability to pay as determined and adjusted by the Secretary at no less than 5-year intervals. Ability to pay limitations on Restoration Payments are not applicable to M&I Water.
- b. Determinations. Ability to pay determinations shall be consistent with Reclamation Instructions²⁰, and following the development of appropriate criteria shall take into account the "benefits" resulting from implementation of this Act.
- c. Requests. The Water Contractor must submit to Reclamation a formal request for consideration for a reduction in the Restoration Payment due to ability to pay limitations. The costs of performing the required ability to pay studies shall be the responsibility of the requesting Water Contractor.
- d. Reassignment of Costs. Any portion of the Restoration Payments in excess of a Water Contractor's ability to pay shall be reassigned to the Commercial Power function for repayment in the fiscal year in which the reassignment is made, unless the Restoration Payment

²⁰ Reclamation Instructions are internal guidance documents which detail various procedures and policies applicable to a range of authorized Reclamation functions.

applicable to the Water Contractors for Irrigation Water in the subject year is less than \$6.00 (October 1992 price levels) per acre-foot as determined by the Direct Calculation Method. Under the later circumstance, any amounts in excess of a Water Contractor's documented ability to pay shall be added first to the Restoration Payment applicable to the total remaining Project Irrigation Water supply until the resulting Restoration Payment by the other Water Contractors reaches \$6.00 (October 1992 price levels) per acre-foot. Thereafter, any remaining outstanding amounts will be added to the Power Restoration Payment Obligation.

- e. Order of Financial Relief. If an ability to pay calculation demonstrates that a Water Contractor has an ability to pay something more than its applicable O&M costs but less than the total of its assigned O&M, capital and Restoration Payment, partial relief shall be designated as first applying to the most recent of the applicable obligations and then to other less senior obligations in descending order of seniority.

5. Variability in Restoration Payments

Consistent with the above (Sections 1 through 4 of Part H), the required Restoration Payments and Total Power Restoration Payment Obligation may vary considerably from fiscal year to fiscal year due to the following:

- a. Uncertainty in any fiscal year over the extent to which Congress will appropriate funds from the Restoration Fund. With the exception of the circumstances which mandate the collection of \$50 million annually as described in subsection 2.b.(1) of Part H of these Interim Guidelines, Congress can appropriate as little as \$0 or as much as \$50 million (October 1992 price levels) to be made available from the Restoration Fund in any fiscal year.
- b. The magnitude of water transfers, particularly those transfers intended for M&I purposes, to non-Project entities.
- c. The projected water supplies upon which the Restoration Payment is applied. For example, in the event of a low water supply, the total of all Restoration Payments to be collected from the Irrigation and M&I Water supply functions will be constrained by the projected water supply and the maximum Restoration Payment limitations applicable to the water supply functions. In order to collect the required amount of Restoration Funds, an additional allocation must be made to Power in excess of that indicated by the Target Allocation.
- d. Ability to pay limitations as may be applicable to Water Contractors having an Irrigation Water supply.
- e. Changes in Project accomplishments and, thereby, the Target Allocation over time.

6. Rescheduled Water²¹

Restoration Payments are applicable to Project Water which is rescheduled from delivery in one water year (e.g., water year X) to delivery in a later water year (e.g., water year X+1). Because the Act applies Restoration Payments only to Project Water actually delivered, rescheduled water which is delivered to a Water Contractor or a transferee or an intermediary consistent with an approved transfer shall be subject to Restoration Payments in the year of actual delivery (e.g., year X+1).

7. Banking of Transferred Water

In those instances when Project Water is banked with an intermediary party for the principle purpose of providing a future water supply to the transferee, the water shall be treated as Delivered Project Water when delivered to the intermediary party and not when withdrawn from the Bank. The Restoration Payment shall be that in effect in the year of delivery to the intermediary.

8. Type of Water Use

The manner in which Project Water is used (as Irrigation Water or M&I Water) and the resulting Restoration Payment to be paid shall be consistent with the actual use of such water by the Water Contractor or transferee(s). In those instances when Project Water is banked with an intermediary, the type of water shall be consistent with the ultimate intended use by the transferee consistent with the applicable transfer agreement.

9. Payments Due, Delinquent Payments, and Adjustments for Water Contractors

The Water Contractor (the transferor) is responsible for full payment of all Restoration Payments for Project Water delivered to the Water Contractor, or a transferee, or intermediary. The total amount of Restoration Payments owed for water delivered is due and payable by the Water Contractor by the end of the month following the month of delivery. Such amounts shall be consistent with the quantities of Project Irrigation and M&I Water shown in Reclamation's water delivery report for the subject month. The water delivery report shall be regarded by the Water Contractor as a bill for all Restoration Payments.

Any adjustments for overpayment or underpayment shall be accomplished through the adjustment of Restoration Payments or other charges due to the United States relative to the subject Water Service, Water Rights Settlement or Repayment Contract and payable in the next month.

²¹ All proposals to reschedule water to a later year must be approved by Reclamation.

The amount to be paid for past due payment of Restoration Payments shall be computed in a manner consistent with the terms included in the Water Contractor's then existing Water Service, Water Rights Settlement or Repayment Contract.

Transferees are not responsible for payment to the United States of Restoration Payments applicable to Project Water transferred to them.

10. Relationship to Other Project Water Payments and Surcharges

The responsibility of the Water Contractors to pay their applicable Restoration Payments as described above shall be in addition to all other payments required by the Act and other applicable provisions of reclamation law.

11. Payment by Power of Restoration Payments

Western (Western) shall prorate the Power Restoration Payment Obligation among the various Project power beneficiaries and shall bill them for the resulting Restoration Payments. Provisions regarding delinquency, payments dates, and payment adjustments shall be addressed in an agreement between Western and Reclamation.

12. Revenues to be Credited to the Restoration Fund

All Restoration Payments shall be credited to the Restoration Fund described in Part B of these Interim Guidelines.

PART I

NOTIFICATION OF AMOUNTS TO BE PAID

1. Reclamation shall include in its annual preliminary water rate publications all applicable payments and charges required by the Act to be paid by the Water Contractors during the forthcoming fiscal year. For the purposes of implementing and maintaining the Restoration Fund, the applicable payments and charges as required by the Act shall be regarded as final for the subject fiscal year. The preliminary water rates are usually made available on or about July 1 of each year.
2. Concurrent with the release of the annual preliminary water rate publications, Reclamation shall notify Western of the Power Restoration Payment Obligation to be directly assigned to Power and the amount, if any, which will be indirectly assigned to Power as a result of the per acre-foot Restoration Payment limits applicable to the Irrigation and M&I Water supply functions. The Power Restoration Payment Obligation and the amount, if any, which will be indirectly assigned to Power as a result of the per Restoration Payment limits applicable to water shall be regarded as final relative to the subject fiscal year. Reclamation will notify Western of any amounts to be paid by Power as a result of ability to pay limitations.

PART J

NON-FEDERAL CONTRIBUTIONS

[Subsection 3407(a)]

1. Monies donated by Non-Federal entities shall be credited to the Restoration Fund to foster one or more specific purposes.
2. Such Non-Federal Contributions shall be expended by the United States only for the purpose(s) specified by the Contributor(s) and shall not be subject to appropriation.
3. The Secretary shall not accept a Non-Federal Contribution for credit to the Restoration Fund prior to the execution of a written agreement between the Contributors and the United States. (Bases of negotiation and other matters concerning the content and execution of the proposed agreement shall be developed and forwarded to Reclamation's Washington Office for review and approval prior to execution of a written agreement.)

PART K

RESTORATION FUND FINANCIAL REPORTS

[Subsection 3407(f)]

1. By September 30, 1994, and annually thereafter, the Secretary shall prepare and submit a detailed financial report to the following five Congressional committees:
 - a. Senate Committee on Energy and Natural Resources;
 - b. Committee on Appropriations of the Senate;
 - c. House Committee on Natural Resources;
 - d. House Committee on Merchant Marine and Fisheries; and
 - e. Committee on Appropriations of the House of Representatives.
2. The financial report shall detail:
 - a. All deposits made to the Restoration Fund during the prior fiscal year including the source(s) of each deposit; Restoration Fund expenditures by authorized activity and responsible entity (entities) during the prior fiscal year; and the beginning and end-of-year balances of the Restoration Fund, and
 - b. Upcoming fiscal year's projections of deposits to and expenditures from the Restoration Fund, and the beginning and anticipated end-of-year balances of the Restoration Fund.
3. In addition, said financial report shall reflect all State of California and reimbursable and nonreimbursable Federal expenditures other than those from the Restoration Fund incurred in the subject fiscal year to carry out the provisions of this Title.

APPENDIX A

APPLICATION OF PAYMENTS AND SURCHARGES: EXAMPLE CALCULATIONS

1. Friant Unit Water Contractor X has received approval from Reclamation to transfer 200 acre-feet (AF) of its 10,000 acre-feet (AF) maximum Project contractual entitlement to entity Y, who was never a CVP Water Contractor prior to October 30, 1992. Entity Y proposes to use this water for M&I purposes. The deliveries to Entity Y are scheduled for February, the last month of the Water Contractor's contractual water year. Consistent with Reclamation's monthly water delivery records, Water Contractor X anticipates the use of 9,100 AF of its maximum combined contractual entitlement prior to February.

Water Contractor X's contractual irrigation water rate is \$4.00 per AF. The Water Contractor's Cost of Service Rate and Full Cost Rate for irrigation water are \$8.00 and \$12.00 per AF, respectively. The Water Contractor's contractual, current, and M&I Full Cost rates are \$6.00, \$10.00 and \$15.00 per AF, respectively.

- a. For purposes of this simplified example and excluding all other payments and surcharges required by the Act or other applicable reclamation law, what water rate must be paid by Water Contractor X for all water scheduled to be transferred?

Analysis and Response:

Impacts of Tiered Water Rates - Reclamation records shows that the contract qualifies as a "new, renewed or amended contract" consistent with the provisions of Part D of the interim guidelines. Accordingly the Water Contractor will encounter the following Tiered Water Rate thresholds:

Max. Contractual Entitlement	10,000 AF
> 90 Percent Threshold	> 9,000 AF
> 80 Percent Threshold	> 8,000 AF

Because the Water Contractor anticipates the use of 9,100 AF of its maximum contractual entitlement prior to the time of the transfer, it is anticipated that the 200 AF of transferred water will exceed the 90 percent threshold. The water is proposed to be used for M&I purposes; therefore, M & I rates are applicable. The Water Contractor will pay the M&I Full Cost Rate of \$15.00 per AF.

Impacts of Transferred Water Rate Requirements - Under the Transferred Water Rate provisions, water used for M&I purposes must be paid for at the Water Contractor's current applicable M&I rate, that is at \$10.00 per AF.

Payment of the Highest Rate - The Interim Guidelines require the Water Contractor to pay the higher of the Transferred Water Rate or Tiered Water Rate when both are applicable. In this example, the Water Contractor is required to pay \$15.00 per AF for all water transferred for M&I purposes pursuant to the subject proposal.

- b. What would the rate be if the water were to be used by the transferee for agricultural purposes?

Analysis and Response:

Impacts of Tiered Water Rates - The water is proposed to be used for agricultural purposes; therefore, irrigation water rates are applicable. Consistent with the prior analysis, the Water Contractor anticipates the use of 9,100 AF of its contractual entitlement prior to the time of the transfer. Therefore, it is projected that the 200 AF of transferred water will exceed the 90 percent threshold and thereby be subject to the Irrigation Full Cost Rate of \$12.00 per AF.

Impacts of Transferred Water Rate Requirements - Under the Transferred Water Rate provisions, water used for agricultural purposes must be paid for at the Water Contractor's Irrigation Full Cost Rate, that is at \$12.00 per AF.

Payment of the Highest Rate - The Interim Guidelines require the Water Contractor to pay the higher of the Transferred or Tiered Water Rate when both are applicable. In this example, the applicable Tiered and Transferred Water Rates are the same. The Water Contractor is required to pay \$12.00 per AF for all water transferred for agricultural purposes pursuant to the subject proposal.

- c. What other surcharges and payments must Water Contractor X pay relative to the transferred water?

Analysis and Response:

Water Contractor X must pay:

- the applicable Friant Surcharge;
- the applicable irrigation or M&I Restoration Payment dependent upon the transferee's actual water use; and
- the \$25 (October 1992 price levels) M&I Surcharge, if the water is used for M&I purposes.

If the transfer were to occur after the date of applicability of the Pre-Renewal Charges, Pre-Renewal Charges will be applicable if Water Contractor X meets the criteria discussed in Part C of these Interim Guidelines. The Pre-Renewal Charges will be equal to 1.5 times the calculated, applicable Restoration Payment.

- d. Upon receipt of the appropriate water rate and applicable surcharges and payments, how will Reclamation credit the monies received for the transferred water?

Response:

<u>Revenue</u>	<u>CREDITING Amount/AF</u>	<u>Account</u>
<u>Full Cost M&I Rate</u>	\$15.00	
Cost of Service Component	<u>10.00</u>	Project Repayment
Difference between Cost of Service and Full Cost	<u>\$ 5.00</u>	Restoration Fund (Tiered Water Rate <u>or</u> Transfer Revenue)
<u>Payments</u>		
Friant Surcharge	\$4 - 7	Restoration Fund
Restoration Payment	Variable	Restoration Fund
Pre-Renewal Charge	Variable ¹	Restoration Fund
M&I Surcharge	\$25.00 ²	Restoration Fund

¹ The Pre-renewal Charge, if any, is to be equal to 1.5 times the calculated Restoration Payment.

² The \$25.00 M&I Surcharge reflects October 1992 price levels and is to be adjusted consistent with the provisions of subsection ac. of Part H of the interim Guidelines.

2. It is Fiscal Year 1996, and Tehama-Colusa Water Contractor Y has received approval from Reclamation to transfer a portion of its entitlement to an entity which was not a CVP Water Contractor prior to October 30, 1992, the date of passage of the Act. The transferee proposes to use that water for agricultural purposes. Following completion of all the required acreage limitation forms by the transferee's landholders as required by the RRA, it is determined that the transferred water will be applied to full cost lands. Water Contractor Y has reviewed its most recent monthly water delivery reports from Reclamation and determined that the subject water at the time of transfer will probably account for a portion of its entitlement in excess of 80 percent but no more than 90 percent of Water Contractor Y's maximum contractual entitlement. The Water Contractor's applicable contractual rate is set at the Cost of Service rate. The Cost of Service and Full Cost Rates for irrigation water are \$17.00 and \$35.00 per A, respectively.

What is the appropriate water rate to be paid by Water Contractor Y for the subject water? What additional charges and payments will Water Contractor Y be required to pay, and how will the various payments and surcharges be credited?

Analysis and Response:

Impacts of Tiered Water Rates - Tehama-Colusa Water Contractor Y's contract was renewed in 1995 and, therefore, is subject to the Tiered Water Rate provisions as discussed in Part D (Tiered Water Rates) of these Interim Guidelines. Accordingly, water used for irrigation purposes in excess of 80 percent but no more than 90 percent of the Water Contractor's maximum combined contractual entitlement must be paid for at a rate equal to the average of the Water Contractor's contractual water rate and the Water Contractor's full cost irrigation water rate. Because the contractual water rate is the Cost-of-Service, the average rate is:

$$(\$17.00/\text{AF} + \$35.00/\text{AF}) / 2 = \$26.00/\text{AF}$$

Impacts of Transferred Water Rates - Under the Transferred Water Rate provisions of these Interim Guidelines, water used for irrigation purposes must be paid for at the Water Contractor's full cost water rate of \$35.00 per AF.

Impacts of Full Cost Provisions of RRA - Independent of these Interim Guidelines, irrigation water which is applied to full cost lands must be paid for at Water Contractor Y's full cost water rate of \$35.00 per AF.

Payment of the Highest Rate - The Interim Guidelines require Water Contractor Y to pay the highest of the Transferred, Tiered or Full Cost water rates when all three are applicable. In this instance, the Contractor is required to pay the irrigation Full Cost Rate of \$35.00 per AF.

Applicable Surcharges and Payments and Crediting:

In addition to the payment of the full cost irrigation water rate, the Water Contractor will be required to pay the irrigation Restoration Payment. Because Water Contractor Y has renewed its water service contract, Pre-Renewal Charges are not applicable.

<u>Revenue</u>	<u>CREDITING Amount/AF</u>	<u>Credit Account</u>
<u>Full cost Irrigation Rate</u>	\$35.00	
Cost of Service	<u>17.00</u>	Project Repayment
Difference between Cost of Service and Full Cost Rates	<u>\$18.00</u>	Reclamation Fund

Payments

Restoration Payment	Variable	Restoration Fund
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APPENDIX B

CHARGES FOR DELINQUENCY PAYMENTS **APPLICABLE TO EXCHANGE CONTRACTORS**

- a. The Exchange Contractor shall be subject to interest, administrative and penalty charges on delinquent payments. When a payment is not received by the due date, the Exchange Contractor shall pay an interest charge for each day the payment is delinquent beyond the due date. When a payment becomes 60 days delinquent, the Exchange Contractor shall pay an administrative charge to cover additional costs of billing and processing the delinquent payment. When a payment is delinquent 90 days or more, the Exchange Contractor shall pay an additional penalty charge of 6 percent per year for each day the payment is delinquent beyond the due date. Further, the Exchange Contractor shall pay any fees incurred for debt collection services associated with a delinquent payment.
- b. The interest charge rate shall be greater of the rate prescribed quarterly in the Federal Register by the Department of the Treasury for application to overdue payments, or the interest charge rate of 0.5 percent per month prescribed by Section 6 of the Reclamation Project Act of 1939. The interest charge rate shall be determined as of the due date and remain fixed for the duration of the delinquency period.
- c. When a partial payment on a delinquent account is received, the amount received shall be applied, first to the penalty, second to the administrative charges, third to the accrued interest, and finally to the overdue payment.

APPENDIX C

RESTORATION PAYMENTS: A 10-YEAR EXAMPLE

Reclamation has analyzed the allocation of Restoration Payments and Restoration Funds for a hypothetical 10 year period, herein labeled the period fiscal year 1994 through fiscal year 2003, relative to the Three Functions -- M&I Water supply, Irrigation Water supply and Power. The example calculation is dependent upon various critical assumptions, including, except for one year, the most recent available Central Valley Project hydrology, a period of unprecedented drought. The analysis is not intended to represent any particular forthcoming period -- it is intended to represent an analysis of one possible scenario.

The principal assumptions are as follows:

1. Projected Hydrology and Water Deliveries:

Year	Total Projected Project Deliveries		Source of Project Deliveries
	Irrigation	M&I	
1994	3,126,000	365,000	Projected 1994 Deliveries
1995	3,486,000	400,000	Total 1984 Deliveries Less 900,000 AF
1996	2,702,000	400,000	Total 1985 Deliveries Less 900,000 AF
1997	3,153,000	400,000	Total 1986 Deliveries Less 900,000 AF
1998	2,532,000	400,000	Total 1987 Deliveries Less 900,000 AF
1999	2,576,000	400,000	Total 1988 Deliveries Less 900,000 AF
2000	2,590,000	400,000	Total 1989 Deliveries Less 900,000 AF
2001 ³	2,008,000	400,000	Total 1990 Deliveries Less 700,000 AF
2002 ³	1,239,000	300,000	Total 1991 Deliveries Less 700,000 AF
2003 ³	1,012,000	300,000	Total 1992 Deliveries Less 700,000 AF

Reclamation is unable at this time to project the total actual reductions in Delivered Project Water to be expected in above-normal, normal or drought years as a result of the requirements of the Act and the Endangered Species

³ The Project deliveries have been reduced due to an assumed, persistent, long-term drought.

Act (ESA). The above reductions have been assumed for the purposes of the example calculation and are not intended to indicate actual or projected reductions in yields as a result of the requirements of this Act or the ESA.

2. Cost-indexing. All dollar amounts have been adjusted over time based upon an assumed cost index.

3. Friant Surcharges. The annual projected revenues from Friant Surcharges during the period fiscal year 1994 through 2003 are assumed to be reflective of the annual historic average Class 1 and Class 2 water supplies, that is, an annual average delivery of 1.5 million acre-feet. Approximately 5.3 percent of the Friant Surcharge revenues were credited as originating from M&I Water deliveries. The remaining portion is assumed to originate from Irrigation Water deliveries.

4. Projected Revenues Other Than Restoration Payments and Friant Surcharges. Due to the lack of historic observations, Reclamation is unable at this time to make informed and accurate projections of future Restoration Fund revenues resulting from application of Tiered Water Rates, Transferred Water Rates, M&I Surcharges and Pre-Renewal Charges. Accordingly the assumed amounts of Tiered Water Revenues, M&I Surcharges, Transferred Revenues and Pre-Renewal Charges as used and credited to the Irrigation and M&I Water supply functions in the example calculation represent speculative amounts. These amounts are shown below:

Pre-Renewal Charges: Analysis assumes 200,000 AF subject to Pre-Renewal Charges in fiscal years 1998 through 2003. The applicable Pre-Renewal Charge in a particular year is to equal 1.5 times the then Restoration Payment. For example purposes, all of the Pre-Renewal Charges are shown as applicable to Irrigation.

Tiered Water Revenues:

1994	\$	0	1999	\$	300,000
1995		0	2000		300,000
1996		0	2001		0
1997		0	2002		0
1998		100,000	2003		0

Transferred Water Quantities and Associated Per Acre-Foot Revenue:

1994	0 AF	1999	50,000 AF x \$35.10/AF ⁴ 50,000 AF x \$45.00/AF ⁵
1995	50,000 AF x \$30.00/AF	2000	75,000 AF x \$36.50/AF 50,000 AF x \$46.9714/AF
1996	50,000 AF x \$31.20/AF 10,000 AF x \$40.00/AF	2001	75,000 AF x \$37.96/AF 75,000 AF x \$48.67/AF
1997	50,000 AF x \$32.45/AF 25,000 AF x \$41.60/AF	2002	100,000 AF x \$39.48/AF 75,000 AF x \$50.61/AF
1998	50,000 AF x \$33.75/AF 50,000 AF x \$43.26/AF	2003	100,000 AF x \$41.06/AF 100,000 AF x \$52.64/AF

M&I Surcharge Water Quantities and Associated Per AF Revenue:

1994	0 AF	1999	50,000 AF x \$29.96/AF ⁶
1995	50,000 AF x \$26.68/AF	2000	75,000 AF x \$30.95/AF
1996	50,000 AF x \$27.53/AF	2001	75,000 AF x \$31.97/AF
1997	50,000 AF x \$28.40/AF	2002	100,000 AF x \$33.02/AF
1998	50,000 AF x \$29.30/AF	2003	100,000 AF x \$34.11/AF

5. Implementation of the Maximum Restoration Payment Policy. Consistent with the Interim Guidelines, all M&I and Irrigation Water Contractors are to be charged each and every fiscal year the maximum Restoration Payment per AF

⁴ The first quantity shown in each year following fiscal year 1994 is predicated upon Project M&I Water transfers from Exchange Contractors to an entity that was not a Central Valley Project Contractor on October 30, 1992. The Transferred Water Rate is at the Exchange Contractors' computed Cost of Service M&I Rate, estimated at \$30 per acre-foot. The \$30 rate is escalated at 4 percent per year thereafter.

⁵ The second quantity shown for each year following fiscal year 1994 is predicated upon Project Irrigation Water transfers from an Exchange Contractor to an entity that was not a Central Valley Project Contractor on October 30, 1992. The Transferred Water Rate is at the Irrigation Full Cost Rate for the Exchange Contractors, which is estimated at \$40 per acre-foot for 1995. The \$40 rate has been escalated by 4 percent per year thereafter.

⁶ The \$25.00 M&I Surcharge (October 1992 price levels) associated with the assumed M&I Water transfers has been escalated by 4 percent per year thereafter.

[that is, \$6.00 (October 1992 price levels) and \$12.00 (October 1992 price levels) of Project Irrigation and M&I Water, respectively.] The remaining portion of the Total Restoration Payment Obligation has been assigned to Power. The analysis presumes that the Maximum Restoration Payment Policy remains in full force and effect unless and until the record of historic actual revenues demonstrates that the percentage allocations to either or both of the Irrigation and M&I Water supply functions will exceed their allocable shares relative to the Target Allocation.

6. Target Allocation. The Target Allocation reflects the Central Valley Project plant-in-service cost allocation percentages for fiscal year 1991. Said allocation represents the actual historic and projected future project accomplishments.

Findings: Consistent with the above assumptions, the completed analysis shows that approximately 26 percent of the Restoration Fund revenues will be assigned to and collected from Power over the 10-year study period (see Summary Table C-1 herein.) Despite the employment of the Maximum Restoration Payment Policy throughout the subject study period, the total amount of Restoration Payments assigned to Power is significantly in excess of the Target Allocation percentage for Power, that is 18 percent of the Restoration Fund revenues. This result is principally due to the impact of the drought years upon Restoration Payment collections from Irrigation Water beneficiaries. Prior to the reduction of Project Water supply due to persistent, long-term drought, assignment to and collection from Power approximated some 19 percent of the total Restoration Fund payments.

The resulting Restoration Payment obligations calculated on a year by year basis are shown in Tables C-1A through C-1J herein.

TABLE C-1 - SUMMARY
EXAMPLE CALCULATION - RESTORATION FUND PAYMENTS
FISCAL YEAR 1994 - 2003

	Power			Irrigation				M&I				
	Discretionary Payment	% of Total	Non-Discretionary Payments	Discretionary Payment	Total Payments	% of Total		Non-Discretionary Payments	Discretionary Payment	Total Payments	% of Total	Grand Total of Payments
1994	\$7,092,800	15.76%	\$13,258,000	\$19,381,200	\$32,639,200	72.53%		\$742,000	\$4,526,000	\$5,268,000	11.71%	\$45,000,000
1995	4,579,600	11.21%	5,682,000	22,310,400	27,992,400	68.54%		3,152,000	5,120,000	8,272,000	20.25%	40,844,000
1996	9,885,780	23.33%	6,082,000	17,860,220	23,942,220	56.52%		3,254,500	5,284,000	8,538,500	20.15%	42,366,500
1997	7,124,540	16.13%	6,722,000	21,503,460	28,225,460	63.91%		3,360,500	5,452,000	8,812,500	19.95%	44,162,500
1998	11,736,040	23.39%	11,474,500	17,799,960	29,274,460	58.33%		3,550,000	5,624,000	9,174,000	18.28%	50,184,500
1999	11,605,000	22.81%	11,827,500	18,676,000	30,503,500	58.93%		3,650,500	5,804,000	9,454,500	18.26%	51,763,000
2000	12,058,900	20.83%	14,830,000	19,399,100	34,229,100	59.13%		5,615,250	5,988,000	11,603,250	20.04%	57,891,250
2001 *	16,942,160	28.07%	15,912,750	15,521,840	31,434,590	52.08%		5,801,250	6,180,000	11,981,250	19.85%	60,356,000
2002 *	25,221,170	39.52%	16,130,250	9,674,830	26,005,080	40.75%		7,806,500	4,785,000	12,591,500	19.73%	63,817,750
2003 *	27,890,240	41.69%	17,676,500	8,328,760	26,005,260	36.86%		8,073,500	4,938,000	13,011,500	19.45%	66,907,000
Totals	\$134,336,230		\$119,595,500	\$170,655,770	\$290,251,270			\$45,006,000	\$53,701,000	\$98,707,000		\$523,294,500
10-yr Average												
1994 - 2003	<u>\$13,433,623</u>	<u>25.67%</u>			<u>\$29,025,127</u>	<u>55.47%</u>				<u>\$9,870,700</u>	<u>18.86%</u>	<u>\$52,329,450</u>
7-yr Average												
1994 - 2000	<u>\$9,183,237</u>	<u>19.35%</u>			<u>\$29,543,763</u>	<u>62.25%</u>				<u>\$8,731,821</u>	<u>18.40%</u>	<u>\$47,458,821</u>
Targeted %		<u>18%</u>				<u>62%</u>					<u>20%</u>	

* Reduced Project deliveries due to persistent long-term drought.

TABLE C-1A
Restoration Fund Payments – FY 1994

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 0	\$ 0	\$ 0
Tiered Water Revenues	0	0	0	0
Transfer Revenues	0	0	0	0
Friant Surcharges – FY 93	0	7,576,000	424,000	8,000,000
Friant Surcharges – FY 94	0	5,682,000	318,000	6,000,000
M&I Surcharges	0	0	0	0
Total Non-Discretionary	0	13,258,000	742,000	14,000,000
Max Restoration Payment 1/	0	19,381,200	4,526,000	23,907,200
Subtotal	0	32,639,200	5,268,000	\$ <u>37,907,200</u>
Allocated RP Share	8,100,000	27,900,000	9,000,000	\$ 45,000,000 2/
RP Revenues in Excess of Allocated Share	0	4,739,200	-3,732,000	1,007,200
RP Adjustment for Over(Under)	-1,007,200	0	0	-1,007,200
TOTAL	\$ <u>7,092,800</u>	\$ <u>32,639,200</u>	\$ <u>5,268,000</u>	\$ <u>45,000,000</u>
% Allocation after Adjustment	<u>15.76%</u>	<u>72.53%</u>	<u>11.71%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:

	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'94 Est. Paid Water Deliveries (AF)	3,126,000	365,000	3,491,000
Maximum Rate per AF	\$ 6.20	\$ 12.40	
Maximum Amount	\$ <u>19,381,200</u>	\$ <u>4,526,000</u>	\$ <u>23,907,200</u>

2/ Maximum Discretionary Revenues
Projected Non-Discretionary Revenues

	\$ 31,000,000
Projected Non-Discretionary Revenues	14,000,000
Total	\$ <u>45,000,000</u>

TABLE C-1B
Restoration Fund Payments – FY 1995

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 0	\$ 0	\$ 0
Tiered Water Revenues	0	0	0	0
Transfer Revenues	0	0	1,500,000	1,500,000
Friant Surcharges	0	5,682,000	318,000	6,000,000
M&I Surcharges	0	0	1,334,000	1,334,000
Total Non-Discretionary	0	5,682,000	3,152,000	8,834,000
Max Restoration Payment 1/	0	22,310,400	5,120,000	27,430,400
Subtotal	0	27,992,400	8,272,000	\$ <u>36,264,400</u>
Allocated RP Share	7,351,920	25,323,280	8,168,800	\$ 40,844,000 2/
RP Revenues in Excess of Allocated Share	0	2,669,120	103,200	2,772,320
RP Adjustment for Over(Under)	-2,772,320	0	0	-2,772,320
TOTAL	\$ <u>4,579,600</u>	\$ <u>27,992,400</u>	\$ <u>8,272,000</u>	\$ <u>40,844,000</u>
% Allocation after Adjustment	<u>11.21%</u>	<u>68.54%</u>	<u>20.25%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:

	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'95 Est. Paid Water Deliveries (AF)	3,486,000	400,000	3,886,000
Maximum Rate per AF	\$ 6.40	\$ 12.80	
Maximum Amount	\$ <u>22,310,400</u>	\$ <u>5,120,000</u>	\$ <u>27,430,400</u>

2/ Maximum Discretionary Revenues
Projected Non-Discretionary Revenues

	\$ 32,010,000
	8,834,000
Total	\$ <u>40,844,000</u>

TABLE C-1C
Restoration Fund Payments – FY 1996

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 0	\$ 0	\$ 0
Tiered Water Revenues	0	0	0	0
Transfer Revenues	0	400,000	1,560,000	1,960,000
Friant Surcharges	0	5,682,000	318,000	6,000,000
M&I Surcharges	0	0	1,376,500	1,376,500
	-----	-----	-----	-----
Total Non-Discretionary	0	6,082,000	3,254,500	9,336,500
Max Restoration Payment 1/	0	17,860,220	5,284,000	23,144,220
	-----	-----	-----	-----
Subtotal	0	23,942,220	8,538,500	\$ <u>32,480,720</u>
Allocated RP Share	7,625,970	26,267,230	8,473,300	\$ 42,366,500 2/
	-----	-----	-----	-----
RP Revenues in Excess of Allocated Share	0	-2,325,010	65,200	-2,259,810
RP Adjustment for Over(Under)	2,259,810	0	0	2,259,810
	-----	-----	-----	-----
TOTAL	\$ <u>9,885,780</u>	\$ <u>23,942,220</u>	\$ <u>8,538,500</u>	\$ <u>42,366,500</u>
% Allocation after Adjustment	<u>23.33%</u>	<u>56.52%</u>	<u>20.15%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:

	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'96 Est. Paid Water Deliveries (AF)	2,702,000	400,000	3,102,000
Maximum Rate per AF	\$ 6.61	\$ 13.21	
	-----	-----	-----
Maximum Amount	\$ <u>17,860,220</u>	\$ <u>5,284,000</u>	\$ <u>23,144,220</u>

2/ Maximum Discretionary Revenues
Projected Non-Discretionary Revenues

	\$ 33,030,000
	9,336,500

Total	\$ <u>42,366,500</u>

TABLE C-1D
Restoration Fund Payments – FY 1997

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 0	\$ 0	\$ 0
Tiered Water Revenues	0	0	0	0
Transfer Revenues	0	1,040,000	1,622,500	2,662,500
Friant Surcharges	0	5,682,000	318,000	6,000,000
M&I Surcharges	0	0	1,420,000	1,420,000
	-----	-----	-----	-----
Total Non-Discretionary	0	6,722,000	3,360,500	10,082,500
Max Restoration Payment 1/	0	21,503,460	5,452,000	26,955,460
	-----	-----	-----	-----
Subtotal	0	28,225,460	8,812,500	\$ <u>37,037,960</u>
Allocated RP Share	7,949,250	27,380,750	8,832,500	\$ 44,162,500 2/
	-----	-----	-----	-----
RP Revenues in Excess of Allocated Share	0	844,710	-20,000	824,710
RP Adjustment for Over(Under)	-824,710	0	0	-824,710
	-----	-----	-----	-----
TOTAL	\$ <u>7,124,540</u>	\$ <u>28,225,460</u>	\$ <u>8,812,500</u>	\$ <u>44,162,500</u>
% Allocation after Adjustment	<u>16.13%</u>	<u>63.91%</u>	<u>19.95%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:

	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'97 Est. Paid Water Deliveries (AF)	3,153,000	400,000	3,553,000
Maximum Rate per AF	\$ 6.82	\$ 13.63	
	-----	-----	-----
Maximum Amount	\$ <u>21,503,460</u>	\$ <u>5,452,000</u>	\$ <u>26,955,460</u>

2/ Maximum Discretionary Revenues
Projected Non-Discretionary Revenues

	\$ 34,080,000
	10,082,500
Total	\$ <u>44,162,500</u>

TABLE C-1E
Restoration Fund Payments – FY 1998

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 2,109,000	\$ 0	\$ 2,109,000
Tiered Water Revenues	0	100,000	0	100,000
Transfer Revenues	0	2,163,000	1,687,500	3,850,500
Friant Surcharges	0	7,102,500	397,500	7,500,000
M&I Surcharges	0	0	1,465,000	1,465,000
Total Non-Discretionary	0	11,474,500	3,550,000	15,024,500
Max Restoration Payment 1/	0	17,799,960	5,624,000	23,423,960
Subtotal	0	29,274,460	9,174,000	\$ <u>38,448,460</u>
Allocated RP Share	9,033,210	31,114,390	10,036,900	\$ 50,184,500 2/
RP Revenues in Excess of Allocated Share	0	-1,839,930	-862,900	-2,702,830
RP Adjustment for Over(Under)	2,702,830	0	0	2,702,830
TOTAL	\$ <u>11,736,040</u>	\$ <u>29,274,460</u>	\$ <u>9,174,000</u>	\$ <u>50,184,500</u>
% Allocation after Adjustment	<u>23.39%</u>	<u>58.33%</u>	<u>18.28%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:

	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'98 Est. Paid Water Deliveries (AF)	2,532,000	400,000	2,932,000
Maximum Rate per AF	\$ 7.03	\$ 14.06	
Maximum Amount	\$ <u>17,799,960</u>	\$ <u>5,624,000</u>	\$ <u>23,423,960</u>

2/ Maximum Discretionary Revenues
Projected Non-Discretionary Revenues

	\$ 35,160,000
	15,024,500
Total	\$ <u>50,184,500</u>

TABLE C-1F
Restoration Fund Payments – FY 1999

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 2,175,000	\$ 0	\$ 2,175,000
Tiered Water Revenues	0	300,000	0	300,000
Transfer Revenues	0	2,250,000	1,755,000	4,005,000
Friant Surcharges	0	7,102,500	397,500	7,500,000
M&I Surcharges	0	0	1,498,000	1,498,000
Total Non-Discretionary	0	11,827,500	3,650,500	15,478,000
Max Restoration Payment 1/	0	18,676,000	5,804,000	24,480,000
Subtotal	0	30,503,500	9,454,500	\$ <u>39,958,000</u>
Allocated RP Share	9,317,340	32,093,060	10,352,600	\$ 51,763,000 2/
RP Revenues in Excess of Allocated Share	0	-1,589,560	-898,100	-2,487,660
RP Adjustment for Over(Under)	2,487,660	0	0	2,487,660
TOTAL	\$ <u>11,805,000</u>	\$ <u>30,503,500</u>	\$ <u>9,454,500</u>	\$ <u>51,763,000</u>
% Allocation after Adjustment	<u>22.81%</u>	<u>58.93%</u>	<u>18.26%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:

	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'99 Est. Paid Water Deliveries (AF)	2,576,000	400,000	2,976,000
Maximum Rate per AF	\$ 7.25	\$ 14.51	
Maximum Amount	\$ <u>18,676,000</u>	\$ <u>5,804,000</u>	\$ <u>24,480,000</u>

2/ Maximum Discretionary Revenues
Projected Non-Discretionary Revenues

	\$ 36,285,000
	15,478,000
Total	\$ <u>51,763,000</u>

TABLE C-1G
Restoration Fund Payments – FY 2000

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 2,247,000	\$ 0	\$ 2,247,000
Tiered Water Revenues	0	300,000	0	300,000
Transfer Revenues	0	2,339,500	2,737,500	5,077,000
Friant Surcharges	0	9,943,500	556,500	10,500,000
M&I Surcharges	0	0	2,321,250	2,321,250
Total Non-Discretionary	0	14,830,000	5,615,250	20,445,250
Max Restoration Payment 1/	0	19,399,100	5,988,000	25,387,100
Subtotal	0	34,229,100	11,603,250	\$ <u>45,832,350</u>
Allocated RP Share	10,420,425	35,892,575	11,578,250	\$ 57,891,250 2/
RP Revenues in Excess of Allocated Share	0	-1,663,475	25,000	-1,638,475
RP Adjustment for Over(Under)	1,638,475	0	0	1,638,475
TOTAL	\$ <u>12,058,900</u>	\$ <u>34,229,100</u>	\$ <u>11,603,250</u>	\$ <u>57,891,250</u>
% Allocation after Adjustment	<u>20.83%</u>	<u>59.13%</u>	<u>20.04%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'00 Est. Paid Water Deliveries (AF)	2,590,000	400,000	2,990,000
Maximum Rate per AF	\$ 7.49	\$ 14.97	
Maximum Amount	\$ <u>19,399,100</u>	\$ <u>5,988,000</u>	\$ <u>25,387,100</u>
2/ Maximum Discretionary Revenues	\$ 37,446,000		
Projected Non-Discretionary Revenues	20,445,250		
Total	\$ <u>57,891,250</u>		

TABLE C-1H
Restoration Fund Payments – FY 2001

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 2,319,000	\$ 0	\$ 2,319,000
Tiered Water Revenues	0	0	0	0
Transfer Revenues	0	3,650,250	2,847,000	6,497,250
Friant Surcharges	0	9,943,500	556,500	10,500,000
M&I Surcharges	0	0	2,397,750	2,397,750
Total Non-Discretionary	0	15,912,750	5,801,250	21,714,000
Max Restoration Payment 1/	0	15,521,840	6,180,000	21,701,840
Subtotal	0	31,434,590	11,981,250	\$ <u>43,415,840</u>
Allocated RP Share	10,864,440	37,421,960	12,071,600	\$ 60,358,000 2/
RP Revenues in Excess of Allocated Share	0	-5,987,370	-90,350	-6,077,720
RP Adjustment for Over(Under)	6,077,720	0	0	6,077,720
TOTAL	\$ <u>16,942,160</u>	\$ <u>31,434,590</u>	\$ <u>11,981,250</u>	\$ <u>60,358,000</u>
% Allocation after Adjustment	<u>28.07%</u>	<u>52.08%</u>	<u>19.85%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:

	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'01 Est. Paid Water Deliveries (AF)	2,008,000	400,000	2,408,000
Maximum Rate per AF	\$ 7.73	\$ 15.45	
Maximum Amount	\$ <u>15,521,840</u>	\$ <u>6,180,000</u>	\$ <u>21,701,840</u>

2/ Maximum Discretionary Revenues
 Projected Non-Discretionary Revenues

	\$ 38,644,000
	21,714,000
Total	\$ <u>60,358,000</u>

TABLE C-11
Restoration Fund Payments -- FY 2002

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 2,391,000	\$ 0	\$ 2,391,000
Tiered Water Revenues	0	0	0	0
Transfer Revenues	0	3,795,750	3,948,000	7,743,750
Friant Surcharges	0	9,943,500	556,500	10,500,000
M&I Surcharges	0	0	3,302,000	3,302,000
Total Non-Discretionary	0	16,130,250	7,806,500	23,936,750
Max Restoration Payment 1/	0	9,874,830	4,785,000	14,659,830
Subtotal	0	26,005,080	12,591,500	\$ <u>38,596,580</u>
Allocated RP Share	11,487,195	39,567,005	12,763,550	\$ 63,817,750 2/
RP Revenues in Excess of Allocated Share	0	-13,561,925	-172,050	-13,733,975
RP Adjustment for Over(Under)	13,733,975	0	0	13,733,975
TOTAL	\$ <u>25,221,170</u>	\$ <u>26,005,080</u>	\$ <u>12,591,500</u>	\$ <u>63,817,750</u>
% Allocation after Adjustment	<u>39.52%</u>	<u>40.75%</u>	<u>19.73%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'02 Est. Paid Water Deliveries (AF)	1,239,000	300,000	1,539,000
Maximum Rate per AF	\$ 7.97	\$ 15.95	
Maximum Amount	\$ <u>9,874,830</u>	\$ <u>4,785,000</u>	\$ <u>14,659,830</u>
2/ Maximum Discretionary Revenues	\$ 39,881,000		
Projected Non-Discretionary Revenues	23,936,750		
Total	\$ <u>63,817,750</u>		

TABLE C-1J
Restoration Fund Payments - FY 2003

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 2,469,000	\$ 0	\$ 2,469,000
Tiered Water Revenues	0	0	0	0
Transfer Revenues	0	5,264,000	4,106,000	9,370,000
Friant Surcharges	0	9,943,500	556,500	10,500,000
M&I Surcharges	0	0	3,411,000	3,411,000
Total Non-Discretionary	0	17,676,500	8,073,500	25,750,000
Max Restoration Payment 1/	0	8,328,760	4,938,000	13,266,760
Subtotal	0	26,005,260	13,011,500	\$ <u>39,016,760</u>
Allocated RP Share	12,043,260	41,482,340	13,381,400	\$ 66,907,000 2/
RP Revenues in Excess of Allocated Share	0	-15,477,080	-369,900	-15,846,980
RP Adjustment for Over(Under)	15,846,980	0	0	15,846,980
TOTAL	\$ <u>27,890,240</u>	\$ <u>26,005,260</u>	\$ <u>13,011,500</u>	\$ <u>66,907,000</u>
% Allocation after Adjustment	<u>41.69%</u>	<u>38.86%</u>	<u>19.45%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:

	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'03 Est. Paid Water Deliveries (AF)	1,012,000	300,000	1,312,000
Maximum Rate per AF	\$ 8.23	\$ 16.46	
Maximum Amount	\$ <u>8,328,760</u>	\$ <u>4,938,000</u>	\$ <u>13,266,760</u>

2/ Maximum Discretionary Revenues
Projected Non-Discretionary Revenues

	\$ 41,157,000
	25,750,000
Total	\$ <u>66,907,000</u>

CENTRAL VALLEY PROJECT

COST ALLOCATION STUDY

May 2001

Prepared By:
United States Department of the Interior
Bureau of Reclamation
Mid-Pacific Region



Appx0252



United States Department of the Interior

BUREAU OF RECLAMATION

Mid-Pacific Regional Office
2800 Cottage Way
Sacramento, California 95825-1898

IN REPLY
REFER TO:

MP-3400
FIN- 4.00

JUN 25 2001

MEMORANDUM

To: To All Concerned

From: Kirk C. Rodgers
Acting Regional Director

Subject: Central Valley Project Cost Allocation Study, May 2001

As Acting Regional Director of the Mid-Pacific Region of the Bureau of Reclamation, I approve the report titled "Central Valley Project Cost Allocation Study, May 2001." Based on the report, Reclamation has determined that the existing allocation is the preferred allocation method and will continue to use it for CVP plant-in-service allocations.

If further information is required, you may contact Craig Stroh at (916) 978-5377, TDD (916) 978-5608.

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LIST OF ACRONYMS AND ABBREVIATIONS

AJE	alternative justifiable expenditure
Bay-Delta Plan	1994 Delta Water Quality Control Plan
CIP	Construction-In-Progress
COA	Coordinated Operations Agreement
COE	U.S. Army Corps of Engineers
Commissioner	Commissioner of Reclamation
Coordination Act	Fish and Wildlife Coordination Act of 1934
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
D-1485	State Water Resources Control Board Decision 1485
Delta	Sacramento-San Joaquin River/San Francisco Bay Delta
DMC	Delta-Mendota Canal
DOE	Department of Energy
ESA	Endangered Species Act
GAO	General Accounting Office
IDC	interest during construction
M&I	municipal and industrial
O&M	Operations and Maintenance
Reclamation	U.S. Bureau of Reclamation
SCRB	separable costs-remaining benefits
Secretary	Secretary of the Interior
Service	U.S. Fish and Wildlife Service.
SOD	safety of dams
State	State of California
SWP	California State Water Project
SWRCB	State Water Resources Control Board
Western	Western Area Power Administration

EXECUTIVE SUMMARY

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

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

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

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

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

PURPOSE AND NEED FOR THIS STUDY

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

Executive Summary

methods to allocate costs, and recommends a preferred alternative.

Public outreach in support of this study began shortly after the study was initiated and continued through review of the Draft Report. A total of eight public meetings during a two-year period provided opportunities for input on all aspects of the study, including alternatives development, evaluation, and comparison. The Draft Report was released for public review and comment in January 2001. A public meeting was held in February 2001 to present an overview of the study, describe alternatives considered, summarize conclusions and recommendations, and solicit input from the public. Responses to written comments received on the Draft Report are presented in Appendix D to this Final Report.

ALTERNATIVES DEVELOPMENT

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

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

in this study were formulated to address that question, and if the answer were affirmative for both alternatives, to provide guidance in the selection of one of them as the recommended method. The criteria were applied to determine whether the alternatives met the basic requirements for an interim cost allocation and to highlight differences between the existing allocation method and the alternatives.

The Proportional Alternative

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

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

The Contractors' Proposal

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

Executive Summary

The use of the 1970 joint cost allocation factors in place of the 1975 factors would significantly affect the allocation of joint costs to the power and flood control purposes. In the 1975 study, the power factor increased to 21.8 percent from 5.9 percent in 1970 while the flood control factor fell to 20.5 percent from 35.5 percent in 1970. The contractors proposed this change claiming that the cost of the single-purpose power alternative in 1975 study was biased by high energy costs at the time and that flood control benefits were understated because previous Corps of Engineers (COE) flood control benefit estimates were not indexed to then-current levels in the 1975 study. This study reviewed these claims and found that high energy costs were symptomatic of the period and that the COE recommendation (that flood control benefits not be indexed because there were other offsetting characteristics of the method being applied) appears to have been reasonable. Of course, it is not known with certainty if the power and flood control benefits from 1970 are more accurate today or over the years between 1975 and today than the benefits developed for these purposes in 1975. An updated estimate of project benefits for all project purposes would be required to make such a determination. Even after such a determination were made, however, questions regarding the integration of the results with past flood control and power benefits, past allocations, and past repayments would remain.

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

The environmental water use account in the Contractors' Proposal would be based on the 800,000 acre-feet of water dedicated annually by section 3406(b)(2) of the CVPIA for the primary purpose of implementing the fish, wildlife, and restoration purposes of the Act. For purposes of determining repayment responsibilities for costs allocated to water supply, this authorized use of existing water would be treated as an additional CVP water supply in the proposal. The Contractors' Proposal provides a formula – derived from repayment requirements specified for many of the actions mandated in section 3406(b)(4)-(23) of the CVPIA – that would treat 37.5 percent of the costs associated with the environmental water account as reimbursable by water and power users and the remaining 62.5 percent as non-reimbursable. This cost sharing arrangement would be tantamount to treating 37.5 percent of the environmental water as mitigation water and the remaining 62.5 percent as enhancement water.

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

Executive Summary

Third, the three water supply functions in the Existing Allocation are all end uses – M&I users, irrigators, and wildlife refuges. The “environment,” on the other hand, as used in the Contractors’ Proposal, is not an end use in the same sense that M&I, irrigation, and wildlife refuges are end uses. Environmental water released from CVP reservoirs for instream environmental benefits could also be used downstream for other beneficial purposes, including irrigation or M&I uses, farther downstream. In such cases, the Contractors’ Proposal could double count the use of water.

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

Authorizations of components of the CVP and reauthorizations of the entire CVP have also addressed consideration of fish and wildlife and their habitats. These include authorization to use CVP water supplies to develop and maintain waterfowl management areas. Authorizations to

add the Trinity River Division, the New Melones Project, and the San Felipe Division included provisions to preserve and propagate fish and wildlife resources.

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

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

DECISION

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

Executive Summary

This report concludes that neither the Proportional Alternative nor the Contractors' Proposal includes characteristics that provide compelling reasons to change the existing allocation method. Accordingly, Reclamation has determined that the Existing Allocation is the preferred allocation alternative and will continue to use for CVP plant-in-service allocations.

If it becomes appropriate in the future to consider performing a new cost allocation study, Reclamation should first consider the informational and technical requirements to complete such a study. A new allocation study would require estimates of historic and future project accomplishments, benefits, and costs, and costs of alternatives. It is expected that such a study would be time consuming and potentially costly. Therefore, before one were undertaken, an evaluation should be completed to identify the following:

- Existing data available for use and what new data would be required;
- The levels of effort needed to develop new data and perform the analyses;
- A methodology to identify past and future benefits for all project purposes; and
- A process to integrate revised estimates of benefits with previous estimates and existing contractor repayment responsibilities.

The evaluation would include coordination with other agencies that would be expected to provide input to a new allocation study – such as the COE and Service – to determine their ability and willingness to participate in it.

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

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

Executive Summary

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

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

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

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

ES-6

CVP Cost Allocation Study
Final Report – May 2001

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Chapter I

INTRODUCTION

Cost allocation is a process to distribute the costs of multi-purpose project facilities among the various purposes served in order to identify responsibilities for repayment of reimbursable costs. Reimbursable costs are costs that require some level of repayment from project beneficiaries. These can be contrasted with non-reimbursable costs, which are costs borne by the Federal government (i.e., Federal taxpayers). Generally, cost allocation is first performed during project planning before construction begins to give contractors an estimate of their repayment responsibility and to determine whether the project is financially feasible. In the case of the CVP, an initial allocation was completed while the project was in the early stages of construction. Since that time, several updated and revised cost allocations have been developed as more and more actual construction costs have been incurred. In addition, numerous laws have been enacted, agreements made, and policies established to guide the allocation of costs among CVP purposes and to assign repayment responsibilities for reimbursable costs to water and power users and other non-Federal entities.

The last detailed CVP cost allocation study was completed in 1975, and the percentages developed in that study for allocating costs among purposes served are still in use today. Since then, relatively minor updates and adjustments have been made annually to the cost allocation to determine repayment responsibilities of water and power users as new project facilities have been added and water and power uses changed.

This report describes the existing allocation of CVP costs and its historical basis, considers alternative methods to allocate costs, and selects a recommended alternative. This study was undertaken to comply with the requirements of Public Law 99-546, dated October 27, 1986, and to respond to recommendations presented in the GAO report titled *Central Valley Project Cost Allocation Overdue and New Method Needed*, dated March

1992.

The remainder of this chapter provides background for this CVP cost allocation study; Chapter II summarizes past CVP cost allocation studies; Chapter III describes the existing CVP cost allocation; Chapter IV discusses cost allocation methods and presents two alternatives to the existing allocation; Chapter V contains numerical results of cost allocations using the existing and two alternative allocation methods; Chapter VI presents evaluation criteria and results of comparative evaluations of the three allocation methods; and Chapter VII contains conclusions and recommendations.

BACKGROUND

The CVP is the largest surface water storage and delivery system in California and is also the largest irrigation water supply project constructed and operated by Reclamation. Facilities and service areas of the CVP cover a large geographic area and include 35 of the State's 58 counties. The CVP includes 20 reservoirs, with a combined storage capacity of approximately 11 million acre feet; 8 powerplants and 2 pumping-generating plants, with a combined capacity of approximately 2 million kilowatts; 2 pumping plants; and approximately 500 miles of major canals and aqueducts. The CVP supplies water to more than 250 long-term water contractors in the Central Valley, the San Francisco Bay Area, and the Santa Clara Valley.

The CVP is authorized as a financially and operationally integrated water supply project, providing water storage both north and south of the Sacramento-San Joaquin River/San Francisco Bay Delta (Delta). As shown on Figure I-1, major CVP dams and reservoirs are located on the Trinity, Sacramento, American, Stanislaus, and San Joaquin rivers. CVP water supplies north of the Delta are controlled by Shasta and Folsom dams on the

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Sacramento and American rivers, respectively. Water from the Trinity River is stored, re-regulated, and diverted through a system of dams, reservoirs, tunnels, and powerplants to the Sacramento River to supplement the supply developed by Shasta Reservoir.

Hydroelectric power generation at numerous CVP facilities provides adequate power for project requirements (project use power) and additional power is available for commercial sale. Commercial power generated by CVP facilities is marketed and sold by the Western Area Power Administration (Western), an agency of the Department of Energy.

Total long-term contracts for CVP water exceed 9 million acre-feet per year. Historically, approximately 90 percent of the water delivered by the CVP has been for agricultural uses. At present, increasing quantities of water is being provided to municipal customers, including the cities of Redding, Sacramento, Folsom, Tracy, and Fresno, most of Santa Clara County, and the northeastern portion of Contra Costa County.

The CVP was authorized through a series of legislative acts, beginning with the Rivers and Harbors Act of 1935, which authorized construction of initial features on the Sacramento and San Joaquin rivers and in the Delta by the COE. The River and Harbors Act of August 26, 1937, reauthorized the CVP for construction under provisions of Federal reclamation laws by the Secretary of the Interior (Secretary). Successive Congressional acts authorized additional facilities, and, in most cases, groups of facilities were authorized as Divisions or Units (components of a division) based on geographical proximity and purposes served.

The first allocation of costs and assessment of financial feasibility for the CVP was completed in 1946. In 1954, the COE, the Federal Power Commission, and the Department of the Interior agreed to use the separable SCRB method as the preferred approach for the allocation of project costs. (The SCRB allocation method is explained in Chapter IV.) In 1956, Reclamation completed its first reallocation of CVP costs based on the SCRB method. This allocation was revised in 1960 and again in 1970, when updated SCRB analyses were

completed. In 1975, a “short-form” reallocation of CVP costs was prepared using updated benefits and indexed costs for some project purposes to revise the 1970 allocation. No major reallocation of CVP costs has been completed since 1975.

To date, the allocation studies of the CVP have provided “interim” results because construction of the CVP is not yet considered complete. Capital costs continue to be incurred for new facilities and for replacements and additions to existing facilities.

Consequently, a final cost allocation cannot be completed at this time.

Each year, Reclamation prepares an update to the interim cost allocation of the CVP for plant-in-service, operations and maintenance (O&M), construction work-in-progress, and the authorized project. The updates utilize factors developed in the 1975 reallocation study. The annual plant-in-service update provides input to Reclamation’s water ratesetting process, Western’s commercial power ratesetting process, Reclamation’s and Western’s financial statements, Reclamation’s Statement of Project Construction Cost and Repayment, and Western’s Power Repayment Study. In addition, Reclamation prepares an allocation of CVP O&M costs annually that also provides input to Reclamation’s water ratesetting process.



THE CENTRAL VALLEY PROJECT

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CVP Cost Allocation Study
Final Report – May 2001

NEED FOR COST ALLOCATIONS

Early Federal efforts in the field of water resources development consisted of simple, single-purpose projects, but soon after that the trend was toward increasingly complex, multi-purpose developments. If a project serves only one purpose, its costs can simply be assigned to that purpose, whether or not the purpose is reimbursable. If all of the purposes in a multi-purpose project are non-reimbursable, no cost allocation is required, at least for repayment purposes, since no reimbursement is necessary. In a multi-purpose project, such as the CVP, with one or more purposes that must reimburse costs, a cost allocation is necessary to determine the level of reimbursement responsibilities.

Like many major water resources projects designed and operated to serve multiple purposes, the CVP is comprised of both single-purpose and multi-purpose components. Costs for single-purpose facilities, such as canals to provide M&I water and irrigation water, are, of course, allocated to the purposes they serve for repayment in accordance with legislation, agreements, and policies. Costs of multi-purpose facilities, such as dams and reservoirs that may be designed and operated to provide water supply, flood control, and other benefits, must be allocated to the multiple purposes served. Costs incurred for some purposes are completely or partially reimbursable while costs incurred for other purposes are completely non-reimbursable. Thus, the central challenge of the allocation process is the equitable allocation of joint costs – the costs of facilities serving more than one project purpose.

Since repayment requirements are established by law and agency policies, some of which are project-specific, the cost allocation process is often project-specific and can require substantial detail. Any allocation process relies to some extent on judgment, and the goal is the development of an apportionment of joint costs that complies with Federal laws and regulations, agency cost allocation and contracting policies, and is perceived as acceptable to all parties. In the CVP, the cost allocation process is used to distribute project costs among its seven authorized purposes and to identify repayment responsibilities for reimbursable costs. The cost allocation identifies costs to be repaid to

the Federal government by water and power users as well as the repayment obligations of non-Federal public entities, such as the State of California (State) and counties. The allocation also identifies non-reimbursable costs, borne by Federal taxpayers.

NEED FOR A REVISED COST

Authorized Purposes of the CVP

- Water Supply
- Hydroelectric Power Generation
- Flood Control
- Fish and Wildlife Protection, Restoration and Enhancement
- Recreation
- Navigation
- Water Quality

Repayment Entities

- Irrigation Water Users
- Municipal and Industrial Water Users
- Commercial Power Customers
- State of California and Counties

ALLOCATION OF THE CVP

Since the last cost reallocation study completed in 1975, two events have occurred that direct Reclamation to conduct a new CVP cost allocation study. Title I of P.L. 99-546 directed the Secretary to operate the CVP in conformity with State water quality standards for the Delta. That law also required that the costs associated with providing CVP water supplies for the purpose of salinity control and for complying with State water quality standards of the Coordinated Operations Agreement be allocated among the project purposes and reimbursed in accordance with existing Reclamation law and policy. The Secretary was authorized and directed to undertake a cost allocation study of the CVP and implement it no later than January 1, 1988.

Reclamation completed a draft cost allocation study in 1988, but it was never implemented.

In 1992, the GAO submitted a report titled *Central Valley Project Cost Allocation Overdue and*

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New Method Needed, dated March 1992, on the CVP cost allocation to the Chairman of the Congressional Subcommittee on Water, Power and Offshore Energy Resources. According to the report, the analysis in the 1988 draft allocation study included inappropriate costs, was based on questionable estimates of project benefits and alternative costs, and required information that was not always available or was costly and time-consuming to obtain. The GAO recommended that the process used to complete the allocation study be streamlined by using less costly and more timely methodologies and suggested two approaches to allocate joint costs that differ from the SCRB procedure. In a response to the GAO recommendation that was published as part of the GAO report, Reclamation indicated that it was working expeditiously to complete the new interim cost allocation study and would examine one approach suggested by the GAO. It would allocate joint costs in direct proportion to specific costs and compare the results to joint costs allocated using the benefits-based method. This would allow Reclamation to assess the results of both methods and determine which methodology is more appropriate for use in allocating costs for the CVP.

SCOPE OF STUDY

The objectives of this cost allocation study were established based on issues raised by the GAO in its 1992 report and other concerns raised by Reclamation staff in recent years. Study objectives include:

- Consider the use of a simplified method to allocate joint costs
- Develop a streamlined process for completing annual updates to the CVP cost allocation
- Identify and correct discrepancies in the allocation or repayment computations to assure compliance with legislation, agreements, and policies
- Consider the need for a new, comprehensive cost reallocation study

In planning this cost allocation study,

Reclamation decided not to develop an entirely new allocation with new allocation factors based on updated estimates of project benefits or alternative costs. Updating water and power operations studies, re-estimating project benefits, re-designing project features and re-estimating their costs in today's dollars would require a significant investment in time and effort and would not be consistent with the GAO recommendation for a more streamlined allocation process. Before making such an investment, it would be prudent to consider the need for it and to consider whether it would likely result in a more acceptable allocation of costs. Accordingly, this study was limited to the level of effort needed to identify and correct discrepancies in the computations, revise computational tools, and to consider alternative allocation methods that would not require a new application of the SCRB method to complete.

As noted above, although Reclamation annually updates four different types of CVP cost allocations, only the plant-in-service allocation and O&M cost allocation are used in the water ratesetting process. Furthermore, the O&M allocation itself is generally based on the plant-in-service allocation. From a functional standpoint then, the plant-in-service allocation is the most crucial of the four and is the only one addressed in this study.

PUBLIC OUTREACH

Public outreach in support of this study began shortly after the study was initiated in January 1999 and continued through review of the Draft Report.

A total of eight public meetings during a two-year period provided opportunities for input on all aspects of the study, including alternatives development, evaluation, and comparison.

The Draft Report was released for public review and comment in January 2001. A public meeting during the public review period discussed information and recommendations presented in the Draft Report. Responses to comments received on the Draft Report are presented in Appendix D to this Final Report.

TABLE I-1

SUMMARY OF PUBLIC MEETINGS AND WORKSHOPS

DATE	PURPOSE
February 4, 1999	<ul style="list-style-type: none"> • Provided overview of the cost allocation study • Described methodology used in existing cost allocation • Described corrections applied to 1995 cost allocation • Discussed potential strategies for development of alternatives
March 10, 1999	<ul style="list-style-type: none"> • Provided examples of existing allocation computations • Described allocation methods suggested by the GAO
April 23, 1999	<ul style="list-style-type: none"> • Reviewed GAO recommendations • Presented initial results from analysis of GAO-suggested method
May 20, 1999	<ul style="list-style-type: none"> • Presented further results from analysis of GAO-suggested method
July 15, 1999	<ul style="list-style-type: none"> • Presented revised results from analysis of GAO-suggested method • Solicited input on other possible allocation alternatives to be considered • Water and power contractors requested opportunity to present alternative for consideration
February 8, 2000	<ul style="list-style-type: none"> • Presented summary and results of three allocation alternatives (Existing Allocation, Proportional Alternative, Contractors' Proposal) • Solicited input on criteria to evaluate and compare alternatives
June 15, 2000	<ul style="list-style-type: none"> • Summarized allocation alternatives under consideration • Presented evaluation criteria to be applied to alternatives
January, 2001	<ul style="list-style-type: none"> • Released Draft Report for public review (no meeting held)
February 9, 2001	<ul style="list-style-type: none"> • Meeting during public review period for Draft Report • Discussed content and recommendations presented in Draft Report
March 26, 2001	<ul style="list-style-type: none"> • Public Review Period closed

Chapter II

SUMMARY OF CVP COST ALLOCATION STUDIES

The allocation of CVP costs is used to establish repayment requirements for various project functions. Annual updates adjust the allocation as changes in the uses of project-supplied water and power occur and as new investments in facilities are completed. These updates are required each year to provide input to the CVP water ratesetting process performed by Reclamation and the power ratesetting process performed by Western. An allocation for the fully "authorized CVP," which includes facilities that have been authorized by Congress and may be constructed in the future, also accompanies annual appropriations requests that are submitted to Congress with the Reclamation's budget. Cost allocations are also used to establish bases for financial feasibility studies when proposals are made for new additions to the project.

ANNUAL COST ALLOCATION UPDATES

As noted in Chapter I, Reclamation updates several types of cost allocations each year to support a variety of administrative requirements.

The plant-in-service cost allocation is updated to reflect changes in the total capital investment for in-service facilities during the most recent fiscal year and changes resulting from legislation or policy determinations. A similar update is made for the O&M cost allocation to reflect changes in the annual costs to operate and maintain the CVP. Calculations of repayment responsibilities for allocated plant-in-service and O&M costs are based on periodic updates of historic and projected water deliveries and power generation and use for each water use function. Shifts in repayment responsibilities can change gradually in response to long-term trends in water supply uses. For example, if the total of historic and projected M&I water use increases as irrigation use decreases, the repayment responsibilities for reimbursable water supply costs

would tend to shift from irrigation customers to M&I customers. Upon completion of the repayment analysis, changes in the repayment responsibilities of M&I water, irrigation water, and commercial power customers are used in the water and power ratesetting processes performed by Reclamation and Western.

The construction work-in-progress cost allocation provides information on the allocation of costs associated with facilities under construction.

Repayment of these costs does not occur until the facilities have been put into service and the costs are recorded on the plant-in-service allocation. The cost allocation of the authorized CVP reflects the allocation of all costs for the entire project as authorized. Costs for facilities on which construction has not been started or completed are shown as estimates that are subject to revision.

As noted in Chapter I, this study addresses only the plant-in-service allocation for the CVP. The recommended allocation method, however, will also be used to complete the construction work-in-progress cost allocation. The allocation of the authorized CVP uses percentages derived from the plant-in-service allocation so that it too will be based on the recommended allocation method. The O&M allocation deals with the annual costs of operating the project and includes categories of costs that are not directly associated with project facilities, such as the hazardous materials management program. Annual costs directly associated with project facilities are allocated in the same proportion as the plant-in-service costs so that the allocation of these costs will also be based on the recommended allocation method.

PREVIOUS CVP COST ALLOCATION STUDIES

Significant allocation studies prepared for the CVP since its inception are summarized in the following sections.

Initial Central Valley Project Studies

During the early to mid-1940s, Reclamation employed many specialists from other Federal, State, and local agencies, the private sector, and academia to address 24 specific problems relating to the CVP. Problem 8 addressed the allocation of project costs to power and irrigation while Problem 9 addressed allocations to navigation, flood control, salinity repulsion, and national security.

Problems 8 and 9 were assigned to a group of investigators drawn from a broad cross-section of Federal and State agencies, the University of California, local planning agencies, and agricultural water users. The committee first applied four different allocation methods – the benefit method, proportionate use method, the vendibility theory, and the alternative justifiable expenditure (AJE) method – and combined the result to produce an allocation of CVP costs that it submitted to Dr. Harlan H. Barrows, Director of Central Valley Project Studies, by letter of June 10, 1946. (The AJE allocation method is discussed in Chapter IV.) Not all members of the group concurred with the recommendation and some issued minority statements. The cost allocation results presented in that report received no official sanction and were never used in project repayment analyses, but they undoubtedly set the stage for subsequent studies.

1946 Cost Allocation Study

Reclamation prepared its own report in 1946 on the allocation of costs and financial feasibility of the CVP. The study was prepared pursuant to section 7(b) of the Reclamation Project Act of 1939, which authorized the Secretary of the Interior to make allocations of costs in accordance with provisions of section 9 thereof.

In the 1946 cost allocation study, Reclamation utilized two methods – AJE and use of facilities – and averaged the results. According to *Document No. 146, 80th Congress, 1st Session*, in which the

allocation was published, the AJE and use of facilities were the two methods for which a reasonable claim to validity existed for application to the CVP. That the two methods produced results with few differences was accepted as proof of the approximate validity of each. Since it was thought that there was no sure way to choose between them, the final result was taken as an average of the two.

1956 Reallocation Study

At the national level, the issue of the appropriate allocation method for use in Federal water resources projects was the subject of several investigations in the early 1950s. The Federal Inter-Agency River Basin Committee represented the COE, the Departments of the Interior, Agriculture, and Commerce, and the Federal Power Commission. In May 1950 its Subcommittee on Benefits and Costs submitted a report entitled *Proposed Practices for Economic Analysis of River Basin Projects*, commonly known as the *Green Book*, in which it recommended the SCRB method for general use in allocating costs on Federal multi-purpose river basin projects. This recommendation, however, was not immediately adopted by the participating agencies.

The Subcommittee on Civil Works of the House Committee on Public Works investigated cost allocations for Federal water projects and in December 1952 issued its report entitled the *Allocation of Costs of Federal Water Resource Development Projects* which was published as *House Committee Print No. 23, 82nd Congress, 2^d Session*. The report did not recommend use of a specific method by all agencies but did state that the Subcommittee was “favorably impressed” by the SCRB method. The subcommittee did recommend that the Bureau of the Budget be designated as the agency to approve cost allocations made for Federal water projects, but the recommendation was not adopted.

On April 6, 1954, the COE, the Federal Power Commission, and the Department of the Interior announced that they would all consistently employ the same approach for cost allocations. The SCRB was considered preferable, but the AJE and use of facilities methods would also be permitted under special circumstances. The Commissioner

Chapter II – Summary of CVP Cost Allocation Studies

subsequently issued implementing instructions stating that SCRB was the preferred method and that other methods would be permitted only in exceptional cases. This policy was restated in Reclamation Instructions and remains in effect today through the Reclamation Manual. The Mid-Pacific Region of Reclamation completed its first reallocation of CVP costs by this method in 1956, but some questions regarding its application remained.

Although the same allocation method had been adopted by Federal water resources agencies, differences emerged in its application. For example, the COE allocated costs to a water conservation purpose (i.e., water supply) as part of the SCRB study, then sub-allocated that amount between the end functions of irrigation and M&I service. Reclamation at that time allocated directly to the purposes without the sub-allocation process. Also, a question lingered as to whether power should first be allocated as a total amount and then sub-allocated between project use power (i.e., that used for pumping M&I, irrigation, and wildlife refuge water) and commercial power – as was the practice in some Reclamation regions – or be allocated directly to the end functions. Little guidance was available within Reclamation and no coordination of such matters existed among Federal departments.

1960 Reallocation Study

Between 1956 and 1959, CVP cost allocation changes were limited to annual adjustments to project cost estimates. Although project costs did not change significantly, several updates to input data were available, making a new reallocation study necessary. Most notably, a recently completed hydrologic study by Reclamation provided updated estimates of water supply and power accomplishments of the project. In addition, the COE had provided updated estimates of flood damage reduction and navigation benefits of the CVP. These revised estimates resulted in changes in project benefits that could not be reflected without a reallocation of the costs of the entire project.

San Luis Unit costs were not included in the 1960 reallocation because the study was nearly completed at the time San Luis was authorized. It was decided that costs for the San Luis Unit should

be allocated separately and treated as an addition.

1970 Reallocation Study

During the 1960s, many changes occurred which showed that some of the accomplishments of the project were not in accord with the 1960 estimates. Various adjustments were made in the interim to account for the changes, but by 1968 the effect of the adjustments had reached a level of significance that the need to re-evaluate the cost allocation in its entirety was evident. In response a proposal from the Regional Director, the Commissioner instructed the Mid-Pacific Region to proceed with a cost reallocation within the framework of existing authorizations.

The 1970 reallocation study was completed in six steps applying to different parts of the project and shown in Table II-1, each of which was completed separately and summed to derive the allocation for the total project. This approach was adopted in recognition of the effects that various authorizations had on the construction and operation of the overall project. The 1970 allocation addressed the authorized CVP and so included costs estimates for facilities that had been authorized by Congress but not yet constructed. Costs for many of the facilities were allocated using the SCRB method. However, with the exception of the Los Banos Creek Detention Dam, which was allocated using the SCRB method, the San Luis Unit was allocated using the proportionate use method for the delivery of water for irrigation and M&I uses. Costs for COE facilities that had been transferred to and/or financially integrated into the CVP were allocated by the COE. The six steps used in the 1970 reallocation study are summarized in Table II-1.

Within the framework of the 1970 reallocation study, several issues emerged that were resolved at a meeting in Washington, DC, during the week of October 21, 1968. The specific issues considered in the 1970 reallocation study and their resolutions are summarized in Table II-2.

ASSUMPTIONS AND CRITERIA EMPLOYED IN THE 1960 COST REALLOCATION STUDY

NEW DATA USED IN THE STUDY

- A recently completed hydrologic operation study provided the basis for the estimated water and power accomplishments.
- Flood control and navigation benefits were based on revised estimates provided by the COE that reflected recent information on flood frequencies and magnitudes, and river traffic and freight rates.

ANALYTICAL ASSUMPTIONS

- The SCRB method was used.
- Project costs were allocated in total rather than feature by feature.
- Construction and O&M costs were combined and allocated concurrently.
- The period of analysis was extended to 100 years from the 50-year period commonly used in previous studies.
- Direct benefits were used for all project purposes except irrigation, which was credited with both direct and indirect benefits.
- Specific costs incurred for either minimum basic recreational facilities or mitigation of fish and wildlife damages were assigned directly to the functions involved.
- All costs were indexed to July 1959 price levels and the cost allocation was performed on the indexed amount. Costs assigned to project purposes were then adjusted downward proportionate to the relationship between the actual project cost and the indexed July 1959 level. This approach was necessary because actual project costs had been incurred over a long period of time at many price bases while all single-purpose and remaining project alternative costs were at the July 1959 level. Indexing of actual costs to the same base as the alternatives was necessary to maintain comparability. The downward adjustment after completion of the allocation returned the indexed costs to their actual amounts.
- All future project benefits and costs were converted to present-worth values over a 100-year period, with an annual interest rate of 2-1/2 percent.
- The single-purpose commercial power alternative assumed privately financed steam-electric construction.
- Commercial power and M&I water benefits were measured as equivalent to their alternative costs.

Chapter II – Summary of CVP Cost Allocation Studies**TABLE II-1****SUMMARY OF 1970 REALLOCATION STUDY**

STEP	FACILITIES	ALLOCATION METHOD	DISCUSSION
Base I	CVP features through the Trinity River Division	SCRB	Recorded costs were indexed to the then-current levels to be comparable with estimates for various alternatives, which were used in the SCRB method. Upon completion of the initial allocation, indexed costs were converted back to their actual levels.
Base II	San Luis Unit	Proportional Use SCRB	With the exception of the Los Banos Detention Dam, the costs of the San Luis Unit were allocated by the proportionate use method, based on prior direction from the Commissioner. The proportionate use method had been used in the studies that supported authorization of the San Luis Unit. Los Banos Detention Dam was allocated separately using the SCRB method because a flood control purpose is included with this facility and no common use denominator was available for the proportionate use method.
Base III	Auburn-Folsom South Unit	SCRB	Allocation of costs for the Auburn-Folsom South Unit was completed in three parts. Auburn Dam and Folsom South Canal were allocated together using the SCRB method. This combination was considered to be essential because much of the water supply for Folsom South Canal would be supplied from Auburn Reservoir. The Foresthill Divide and Folsom-Malby sub-units were allocated separately because of their independence from the remainder of the Auburn-Folsom South Unit. The SCRB method was used in allocating the cost of each of these sub-units. The results from the three parts were combined.
Base IV	COE Projects	Unknown	Used allocated costs provided by COE.
Base V	San Felipe Division	SCRB	All facilities allocated using SCRB method.
Base VI	Black Butte Dam and Reservoir	Unknown	Used allocated costs provided by COE.

Chapter II – Summary of CVP Cost Allocation Studies**TABLE II-2****SIGNIFICANT ISSUES ADDRESSED IN THE 1970 REALLOCATION STUDY**

ISSUE	RESOLUTION
Water supply allocation with sub-allocation to irrigation, M&I, and waterfowl conservation functions	In previous CVP cost allocations, water supply costs had been directly allocated to end-use functions. The 1970 reallocation adopted an allocation to water supply with sub-allocations to water use functions based on proportionate water deliveries to each function. This approach was adopted so that adjustments for future changes in project accomplishments could be more readily accommodated.
Power total allocation with sub-allocation to commercial power and the project use functions of irrigation, M&I, and waterfowl conservation	Similar to the decision on water supply sub-allocation, it was determined that a total power allocation with costs sub-allocated to commercial and project use functions was preferable. It was decided that total power costs should be sub-allocated in proportion to costs of separate alternative projects for both commercial and project use that would provide power equivalent to that of the multipurpose project. The project use share was further sub-allocated among irrigation, M&I, and waterfowl in proportion to the amounts of energy used by each.
Allocations to recreation and fish and wildlife purposes	After consideration of the difficulties in directly allocating costs to these two purposes, it was decided to combine recreation and fish and wildlife into a single purpose. After allocation to the combined purpose, sub-allocations were made to the separate purposes proportionate to benefits accruing to each.
Flood Control and Navigation	The COE re-evaluated flood control and navigation accomplishments of the CVP and provided revised benefits by letter of April 25, 1969.
Use of COE allocation studies for project units authorized for construction by the COE	The New Melones, Hidden, Buchanan, and Marysville projects were authorized for construction by the COE, but with differing provisions for their integration with the CVP upon completion. It was decided that the cost estimates and allocations made by the COE should be incorporated in the CVP cost allocation.
Interest Rate	The then-current interest rate of 3-1/4 percent was used in the allocation. It was recognized that many of the features of the CVP were built when other interest rates prevailed, but attempts to use a series of rates would unduly complicate the study and probably add little to its accuracy.
Allocation of joint costs for the San Luis Unit to the recreation purpose	<p>The 1955 feasibility report for the San Luis Unit included minimal recreational development estimated at about \$90,000. This amount was indexed upward to \$100,000 during 1960 congressional hearings for authorization. The San Luis authorization provided for joint development with the State. A joint project was developed, and recreation facilities were greatly expanded. Reclamation participated to the extent of approximately \$3 million in sharing specific costs of these facilities.</p> <p>A question emerged regarding the propriety of allocating a share of the joint costs for the San Luis Unit to recreation. It was agreed that the authorization did not provide for allocation of joint costs on a non-reimbursable basis. The Mid-Pacific Region was directed to allocate only specific costs to recreation in the San Luis Unit.</p>
Use of Federally financed single-purpose alternatives in the cost allocation	It was reaffirmed that the single-purpose alternative for all purposes should be based on the same period of analysis and financed in the same manner as the multi-purpose project.

Chapter II – Summary of CVP Cost Allocation Studies**1975 Reallocation Study**

A “short form” reallocation of CVP costs was prepared in 1975. It too was an allocation of the authorized CVP. The shortcut approach utilized some information prepared for the 1970 study, adjusted and updated other information, and developed completely new information for still other purposes. The 1975 study did utilize revised benefits, including those for power, navigation, and fish and wildlife, which were provided by other Federal agencies. All other benefits were re-evaluated by the Mid-Pacific Regional Office. The 1975 study did not include re-evaluation of hydrologic operations or resizing and re-costing of alternatives.

Water supply benefits were not re-evaluated since it was assumed they would exceed the cost of a single-purpose alternative. Power benefits were re-evaluated based on energy and capacity dollar values for nuclear powerplants as provided by the Federal Power Commission. Fish and wildlife benefits were re-evaluated by the Fish and Wildlife Service (Service), and the COE provided a new evaluation of navigation benefits but recommended using the flood control benefit values it supplied for the 1970 reallocation study. The present worth of the stream of annual flood control benefits did increase somewhat because of a decline in the interest rate used by Reclamation to perform the present worth computations. Recreation benefits were not re-evaluated, and at that time water quality was not considered a project purpose to which costs were allocated.

Prior to commencing the 1975 study, representatives from the regional and Washington offices met to discuss and agree on the criteria to be used. The meeting was held in Washington on February 13-14, 1975, and culminated in re-confirmation of most of the decisions reached at a similar meeting preceding the 1970 reallocation study and described in Table II-2 pertaining to special problems and techniques to be used in application of the SCRB method. No major departures from the previous approaches were recommended.

These early decisions were important since they set the stage for several decades of Reclamation practice, including decisions to allocate to water supply first, then sub-allocate to M&I, irrigation, and fish and wildlife water supply and a precedent that different cost allocation methods could be applied to different groups of facilities in such a large project, with different facilities built at different periods of time.

CONGRESSIONAL ACTIONS THAT AFFECT ALLOCATIONS AND REPAYMENT

Historical relationships between project authorizations and expenditures have linked cost allocations and repayment with Congressional actions since passage of the Reclamation Act of 1902. When the primary features of the CVP were authorized and constructed in the 1940s through the 1960s, the focus of Congressional actions was on authorization of project features. During the past two decades, however, the focus of Congress has shifted toward corrective actions to address environmental problems associated with the CVP.

For several of the corrective actions, Congress specified repayment obligations. With the exception of the Fish and Wildlife Coordination Act, all of the following Congressional actions that affect CVP cost allocations and repayment have occurred since 1975.

Fish and Wildlife Coordination Act Requirements

The Fish and Wildlife Coordination Act (Coordination Act), enacted in 1934 and amended in 1946, 1958, and 1965, directs Federal agencies to coordinate their activities with the Service in the development of projects that may affect biological resources. The act recognizes that the construction and operation of water resources projects affect environmental resources, with the potential to create harm or to enhance existing conditions. The act contains provisions for the repayment of costs associated with environmental mitigation and enhancement. While costs for environmental enhancement are considered non-reimbursable Federal expenditures, repayment obligations for mitigation costs have changed over time.

Chapter II – Summary of CVP Cost Allocation Studies

In the 1934 act, mitigation costs were considered reimbursable and were included in the project repayment obligations for water and power users. The 1946 amendment to the act, passed shortly before major construction of the CVP was undertaken, stated that mitigation costs were henceforth considered non-reimbursable Federal expenditures. However, the 1965 amendment, enacted prior to construction of the San Luis Unit and San Felipe Division of the CVP, repealed the non-reimbursability provision for fish and wildlife mitigation costs. In the allocation of CVP costs, the construction date of features that require fish and wildlife mitigation is used to determine whether such costs are reimbursable or non-reimbursable in accordance with the various amendments to the act.

Congressional Approval of Cost Allocations

The Department of Energy Organization Act, dated August 4, 1977, authorized establishment of the Department of Energy (DOE) and transferred all power marketing functions from Reclamation to that agency. Section 302(a)(3) of that Act provided that no "changes in any cost allocation or project evaluation standards shall be deemed to authorize the reallocation of joint costs of multipurpose facilities theretofore allocated unless and to the extent that such change is hereafter approved by Congress."

By letter of March 13, 1978, the Regional Solicitor advised the Regional Director that allocation revisions made pursuant to the Mid-Pacific Region Supplement to Reclamation Instructions dated March 10, 1975, would not be effective unless they were approved by Congress. The Solicitor also advised by a second letter dated April 13, 1978, that the allocation adjustments prepared annually for budget appropriation hearings were not affected by the provisions of the act. Since a detailed reallocation of CVP costs completed after 1977 could significantly affect the allocation of joint costs, it is likely that Congressional approval of some form would be necessary.

Trinity River Mitigation and Restoration Activities

The Trinity River Division was authorized by Public Law 84-386, dated August 12, 1955. Section 2 of that act authorized and directed the Secretary to

adopt appropriate measures to insure the preservation and propagation of fish and wildlife. Costs incurred for fish and wildlife purposes pursuant to this act were considered non-reimbursable Federal expenditures in accordance with the Coordination Act of 1946.

Following completion of original project elements in the Trinity River Division, additional features were authorized as part of the Trinity River Restoration Program. Work was performed under the authority of Public Law 96-335, dated September 4, 1980, and Public Law 98-541, dated October 24, 1984, for the purposes of stream rectification and fish and wildlife restoration in the Trinity River Basin.

Stream rectification costs incurred in accordance with the 1980 act were subject to a 50-50 cost sharing requirement between the State and Federal governments, with Federal construction costs limited to \$3.5 million subject to indexing as appropriate. Fish and wildlife restoration costs incurred in accordance with the 1984 act were allocated 50 percent as reimbursable expenditures, 35 percent as non-reimbursable Federal expenditures, and 15 percent to the State and Humboldt and Trinity Counties.

Therefore, for the Trinity River Division, the authorization governing expenditures on fish and wildlife mitigation costs determines the reimbursement and cost-share requirements among water and power users, and Federal, State, and local governments.

Coordinated Operations Agreement and Suisun Marsh Preservation Agreement

In 1986, Reclamation and the State entered into a Coordinated Operations Agreement (COA) that described how the CVP and the California State Water Project (SWP) are to be operated in a coordinated manner to jointly meet Delta salinity control and water quality standards as defined by SWRCB. The COA included many provisions concerning the joint operations of CVP and SWP, including methods to ensure that water demands in specific areas north of the Delta and in the Delta are met prior to exporting water to areas south of the Delta. In addition, COA provisions defined how

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much water the CVP and the SWP can export when the Delta conditions allow exports.

Title I of P.L. 99-546 directed the Secretary to operate the CVP in conformity with State water quality standards for the Delta. The act specified that costs associated with providing CVP water supplies for salinity control and to comply with State water quality standards be allocated among project purposes and reimbursed in accordance with existing Reclamation law and policy. Title I also authorized and directed the Secretary to undertake a cost allocation study of the CVP and to implement such allocations no later than January 1, 1988.

Title II of the act, The Suisun Marsh Preservation Agreement, authorized Reclamation to execute and implement that agreement including construction of a number of Suisun Marsh preservation facilities and set a cost ceiling on the Federal contribution. The act also required Reclamation to allocate these costs among the reimbursable and non-reimbursable purposes served by the project. Suisun Marsh preservation facilities have been constructed and their costs allocated as directed by Title II.

As noted in Chapter I, Reclamation undertook and completed a draft cost allocation study of the CVP in 1988 to comply with the requirements of Title I, but the draft allocation was never implemented.

General Accounting Office Report

As discussed in Chapter I, the GAO in 1992 submitted a report to Congress on the CVP cost allocation, together with its finding that the draft CVP cost allocation study prepared in 1988 included inappropriate costs, was based on highly questionable data, and required data that were unavailable or difficult to obtain. It suggested two alternative approaches to cost allocation intended to simplify the process and provide a more representative allocation of costs among current project beneficiaries.

One method would allocate joint costs in proportion to specific costs. Under this method, joint costs would be allocated in direct proportion to the specific costs assigned to each project purpose.

For example, if specific costs associated with irrigation were 80 percent of all specific project costs, then irrigation would receive 80 percent of the joint costs. In concept, this method is similar to an allocation of overhead costs among multiple products within a business.

The second method suggested in the GAO report would allocate joint costs on the basis of use. For example, if 20 percent of the water in a reservoir is used for M&I purposes while 80 percent is used for irrigation, then 20 percent of the costs of the dam and reservoir would be allocated to M&I purposes and 80 percent to irrigation. To apply this method, a uniform unit of measurement, such as acre-feet of water supply, is needed. Because CVP dams and reservoirs provide flood control, power generation, navigation, fish and wildlife, recreation and water quality benefits in addition to water supply benefits, it is not possible to develop a common unit of measurement. Therefore, this method is not considered applicable for the allocation of CVP costs.

Central Valley Project Improvement Act

On October 30, 1992, the President signed into law the Reclamation Projects Authorization and Adjustment Act of 1992 (Public Law 102-575) that included Title XXXIV, the CVPIA. The CVPIA amended the Act of August 26, 1937, the basic authorizing legislation for the CVP, to include fish and wildlife protection, restoration, and mitigation as project purposes having equal priority with irrigation and domestic uses and fish and wildlife enhancement as a project purpose equal to power generation.

The CVPIA identified a number of specific measures to meet these new purposes. It also directed the Secretary to operate the CVP consistent with these purposes, to meet the Federal trust responsibilities to protect the fishery resources of affected Federally-recognized Indian tribes, to meet all requirements of Federal and State law, and to achieve a reasonable balance among competing demands for CVP water.

Many of the provisions included in the CVPIA identified specific measures intended to improve fishery conditions in Central Valley rivers and the

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Delta. In many cases, the provisions also provided specific cost sharing and allocation criteria. As a result, the allocation of costs for CVPIA-mandated actions was directed by Congress, with Congress specifying the percentage of costs to be allocated to water and power users, the Federal government, and the State. Relevant examples are the actions specified in section 3406(b)(4)-(23) and refuge water supplies addressed in section 3406(d).

On the other hand, the CVPIA contained requirements that could affect CVP water availability and use without directing that a new cost allocation be undertaken or providing a cost allocation formula.

Section 3406(b)(2) of the CVPIA directed the Secretary to dedicate and manage 800,000 acre-feet of CVP yield for the primary purpose of implementing the fish, wildlife, and restoration purposes of the act, to assist the State in its efforts to protect Bay/Delta waters, and to help meet other legally imposed obligations on the CVP, including but not limited to additional obligations under the Federal Endangered Species Act. The dedication of this water would be expected to reduce the capability of the CVP to deliver contracted for amounts of water to M&I

and irrigation contractors. Congress neither directed that a new cost allocation study be undertaken as a result of likely reductions in water contract deliveries nor provided a cost allocation formula related to the dedicated water.

In summary, throughout the life of the CVP, the allocation of its costs has been affected directly or indirectly by Federal legislation, continuing up to the recent specific allocation of costs of certain actions and facilities mandated by the CVPIA. This has meant that different rules may apply to different groups of CVP facilities or facilities built during different periods of time.

Once the SCRB allocation method was adopted by Reclamation in 1954, it has been applied to most project facilities in the recurring allocation studies of the CVP. Exceptions for certain groups of facilities, such as the San Luis Unit, have been made where the facilities in question are single-purpose in nature and an allocation using the SCRB method is unnecessary.

The current CVP cost allocation study must be understood in the context of these changing mandates and application of different procedures to different sets of CVP facilities. It is also important to note that the existing CVP water ratesetting process, dependent as it is on the allocation of CVP costs, has relied on this amalgamation of practices.

Chapter III

EXISTING CVP PLANT-IN-SERVICE COST ALLOCATION

As an initial step in conducting this CVP cost allocation study, Mid-Pacific Region staff of Reclamation reviewed and revised the 1995 annual interim update to the allocation of plant-in-service costs (the most recent completed at the time). The review, which was made to assure compliance with authorizing legislation, regulatory requirements, interagency agreements, and/or policy guidelines revealed several deficiencies that had been part of previous annual updates, and data that had been introduced into the 1995 interim allocation. The types of deficiencies identified and corrected included arithmetic errors in some computations, inconsistent rounding of computed values, incomplete allocation of some costs, and the use of allocation criteria that were inconsistent with authorizing legislation, regulatory requirements, and/or policy guidelines.

In November 1998 prior to the first public meeting on the cost allocation study that was held in February 1999, Reclamation provided a three-volume documentation of the CVP cost allocation to agency staff, stakeholders, and interested parties. The first volume presented allocation factors and repayment responsibilities for plant-in-service costs listed in the CVP financial statement on a feature-by-feature basis. For each feature, this volume described any adjustments to costs reported in the financial statement that are needed prior to the allocation computations, the authorization of and allocation criteria applied to each feature, and the repayment criteria used to determine reimbursable costs allocated to the water supply, power, fish and wildlife, and recreation purposes. The second and third volumes of the documentation comprised a compendium of reference materials regarding authorizations, agreements, and agency policies on issues affecting cost allocation and repayment. Subsequently, the 1996 and 1997 plant-in-service interim cost allocations were based on intermediate versions of the revisions that were available for

application in these annual updates. Beginning in 1998, annual cost allocation updates have been based on the results of the revisions made at this step.

As a part of the study, a revised and expanded computer spreadsheet was developed to improve the speed with which cost allocation updates can be completed. The spreadsheet uses standardized computations to allocate costs and calculate repayment responsibilities for each feature in the CVP. Beginning in 1996, interim cost allocation updates have been completed in a matter of weeks rather than over a period of months, which had typically been required prior to the improvements.

COST ALLOCATION COMPUTATIONAL PROCESS

A three-step process is followed in the allocation of CVP costs.

- Identify costs to be allocated.
- Allocate costs to project purposes.
- Calculate repayment responsibilities for each project purpose.

The following discussions provide general descriptions of these three steps.

Identify Costs to be Allocated

As described in Chapter II, the CVP was authorized at different times through various pieces of legislation and includes facilities constructed by Reclamation and other facilities constructed by the COE that have been transferred to Reclamation for repayment. In addition, certain facilities constructed by Reclamation, while still operated as an integral part of the CVP, have been transferred from Reclamation to DOE.

The Department of Energy Organization Act of 1977, establishing DOE, transferred the power marketing functions of Reclamation, including the construction, operation, and maintenance of transmission lines, to the new department. Western was created within DOE and exercises the power marketing functions for the CVP. The plant-in-service costs of CVP transmission lines were subsequently transferred to Western and no longer appear in Schedule No.1 (Plant, Property and Equipment) of the CVP financial statement.

The CVP financial statement reflects costs of facilities that can be broadly grouped into the six categories described below. Costs of facilities transferred to Western are included as a seventh category.

Single-Purpose Facilities – These are features of the project that serve a single purpose, such as canals and pumping plants (water supply purpose), powerplants and switchyards (power purpose), fish facilities (fish and wildlife purpose), and recreation facilities (recreation purpose). The allocation of single-purpose facilities is simple, with costs assigned to the single purpose the facility serves.

Some of the single-purpose facilities listed in the CVP financial statement are local water distribution systems serving both M&I and irrigation water users that are being repaid through repayment contracts with the United States. A repayment contract specifies a fixed obligation that is to be repaid through a fixed number of installments and is similar in nature to a home mortgage. These facilities are included in the CVP cost allocation because Reclamation is responsible for collections under provisions of the repayment contracts. Their costs are allocated to the water supply purpose and then set aside in a separate repayment contract category. Since these costs are recovered through repayment contracts, they are not included in water or power rates.

Multi-Purpose Facilities – These are features of the CVP that serve multiple purposes, such as dams and reservoirs. A number of CVP dams and reservoirs provide flood control benefits and/or store water for both hydroelectric power generation and water supply. Other multi-purpose facilities include

radio, telemetry, and other communications equipment, rain and stream gages, permanent operating facilities, and protective measures in Suisun Marsh to control salinity water conditions.

Since 1956, the costs for multi-purpose features of the CVP have generally been allocated among the purposes served by each facility using the SCR method.

The existing cost allocation uses factors that were calculated in the 1975 reallocation study. These factors identify the portion of costs for each multi-purpose facility that are specific to individual purposes (separable factors) and the proportional allocation of remaining joint costs among multiple purposes (joint factors).

COE-Transferred Facilities – The CVP includes three facilities listed below that were constructed by the COE and transferred to Reclamation for operational and financial integration with the CVP. They appear in Schedule No.1 of the CVP financial statement. Folsom Dam was constructed by the COE, transferred to Reclamation, and integrated into the CVP; Reclamation has developed allocation factors for Folsom Dam as part of its own cost allocation studies. Reclamation has adopted the COE cost allocation for the other two facilities and collects for repayment accordingly. Each year the COE provides a letter to Reclamation that presents the current-year allocation of costs for the two facilities.

- Folsom Dam and Reservoir
- New Melones Dam, Powerplant, and Reservoir
- Black Butte Dam and Reservoir

In addition, Reclamation, through the CVP, has assumed the repayment obligation for two other facilities constructed and operated by the COE. The two facilities are listed below. Reclamation has also adopted the COE allocation for these facilities and collects for repayment accordingly. Each year the COE provides a letter to Reclamation that presents the current-year allocation of costs for the two facilities.

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- Hidden Dam and Hensley Lake
- Buchanan Dam and Eastman Lake

Non-Reimbursable Costs – The plant-in-service costs of a number of CVP facilities include components directly set aside to a non-reimbursable category pursuant to Congressional legislation. In the CVP allocation these component costs are directly assigned to the appropriate category and are removed from the allocation base. The non-reimbursable costs are as follows:

- Federal share of Safety of Dams improvements
- Archeology, cultural, and historical
- Highway improvement
- Non-reimbursable Interest During Construction
- Capitalized movable equipment
- Buildings and service facilities

Authorized Deferred Use – Public Law 89-161, dated September 2, 1965, authorized the Auburn-Folsom South unit and allowed the Secretary to include additional capacity in the Folsom South Canal to deliver water to potential future additions to the CVP along the east side of the Central Valley. Public Law 90-65, dated August 19, 1967, authorized the Secretary to include extra capacity in the Tehama-Colusa Canal to enable it to provide future water service to areas that could be authorized as an extension of the CVP. In both cases the incremental costs of the additional canal capacity were to be assigned to deferred use. These costs would become the repayment responsibility of water users if and when facilities that formed the basis for the deferral are ever constructed.

State Share of San Luis Unit – Public Law 86-488, dated June 3 1960, authorized the Secretary to construct, operate, and maintain the San Luis Unit as an integral part of the CVP. Certain facilities, including San Luis Dam, pumping plants, and the

San Luis Canal, were to be jointly used with the State and are known as joint-use facilities. Contract No. 14-06-200-9755, dated December 30, 1961, provides that the State shall pay 55 percent of the construction cost of joint-use facilities and the Federal government 45 percent. In the allocation of CVP costs, the State share of the construction costs of joint-use facilities is directly assigned to the State and removed from the allocation base.

Western Facilities – Facilities owned and operated by Western are the Central Valley Power System and Interties Power System. They are single-purpose power facilities, and plant-in-service costs are derived from Western's annual Results of Operations for both systems.

Allocate Costs to Project Purposes

Starting with each year's financial statement, cost allocation computations are completed in several steps to assure that cost components are identified and allocated in accordance with existing legislation, agreements, and policies. First, costs reported in the financial statement are disaggregated, as necessary. The total costs of many features reported in the financial statement include cost components that are to be directly assigned to a non-reimbursable expense category or are subject to allocation and repayment criteria that differ from those of the main feature.

For example, the total cost of a feature reported in the financial statement may include non-reimbursable costs associated with archaeological, cultural, and historical studies. These costs are identified and assigned directly to the appropriate non-reimbursable cost category. In other cases, total costs in the financial statement include interest during construction (IDC), safety of dams improvements, or other items that are not subject to the same cost allocation and repayment criteria as the main feature. In general, the repayment requirements of these components have been specified by Congressional legislation. The costs are identified and allocated separately. Such adjustments may be based on specified dollar amounts or percentages of total costs incurred.

After completing the adjustments described above, the remaining costs represent the total capital

Chapter III – Existing CVP Cost Allocation

investment to be allocated among the authorized project purposes of the CVP. For single-purpose facilities, costs are allocated in total to the purpose served. Subsequent computations, described in a later section, distribute allocated costs for determination of repayment responsibilities.

For multi-purpose facilities, costs are allocated using separable and joint cost allocation factors. In the existing cost allocation, these factors are based on the results of the 1975 reallocation study, which was completed using the SCRB method. First, separable cost factors are applied to identify the portion of total costs allocated among project purposes as separable costs. (Separable costs are discussed in Chapter IV.) The remaining costs are then allocated among multiple purposes using the joint cost allocation factors. The total allocation to each project purpose is the sum of separable costs and that portion of joint costs allocated to the purpose.

Calculate Repayment Responsibilities

Repayment responsibilities for costs allocated to each project purpose are determined separately for each purpose. Depending on the facility, costs allocated to water supply, power, fish and wildlife, and recreation purposes are either fully or partly reimbursable by the project beneficiaries. Costs allocated to flood control, navigation, and water quality are non-reimbursable Federal expenditures. In general, the costs of constructing CVP facilities are initially paid by the Federal government (Reclamation) with funds appropriated by Congress. Reimbursable costs are the costs that will be repaid to the Federal government by M&I and irrigation water users, commercial power customers, the State, and counties within the State. In the context of this study, the term “reimbursable” generally applies to costs to be repaid by water and power customers. Non-reimbursable costs are the construction costs that will not be repaid to the Federal government; in effect, they are borne by the Federal taxpayer. A brief description of the repayment analysis to determine reimbursable costs follows.

Water Supply Repayment – Costs allocated to the water supply purpose are sub-allocated among the M&I, irrigation, and wildlife refuge water use

functions in proportion to their respective water deliveries. More specifically, costs are distributed using factors based on the type of facility used (storage, conveyance, conveyance pumping, or direct pumping) in proportion to the amount of water stored, conveyed, or distributed for each function. In order to appropriately reflect use of such facilities, proportional use is based on the total of actual historic and projected future water deliveries for both water users and wetland habitat areas. For any given allocation update, actual water delivery records begin with the first CVP water deliveries and continue through the year two years prior to the year of the update. Projected water deliveries extend from that date through the end of the repayment period (2030 for in-basin facilities, and 2036 for San Felipe Division facilities) and assume the delivery of full contract amounts or are reduced to reflect possible future reductions in the amount of CVP water available to its contractors. The effect of year-to-year changes in water deliveries on these proportions based on actual use is normally very small due to the long period considered. Consequently, factors used to determine water supply repayment obligations do not vary significantly from year to year.

Costs sub-allocated to the wildlife refuge water supply function are further sub-allocated among reimbursable and non-reimbursable functions based on cost sharing criteria included in the CVPIA. Reimbursable costs are assigned to non-Federal entities (project water and power users and the State) in accordance with legislative requirements. The distribution of that portion of wildlife refuge water supply costs that is reimbursable by project water and power users (M&I water, irrigation water, and commercial power contractors) is made in proportion to the previous year’s costs allocated to the three reimbursable functions of M&I water supply, irrigation water supply, and commercial power.

Power Repayment – Costs allocated to the power purpose are first sub-allocated between project use and commercial power using factors derived from the long-term project power generation and project use power studies prepared by Reclamation with input from the Western. In this distribution, the costs of Western’s Interties Power

Chapter III – Existing CVP Cost Allocation

System are allocated entirely to the commercial power function. They and other costs allocated to commercial power are collected by Western in the power rates it charges preference power customers.

Costs sub-allocated to project use power are further sub-allocated among the M&I, irrigation, and wildlife refuge water use functions. This sub-allocation is based on estimates of project use power requirements prepared by Reclamation.

Costs for project use power that is used to convey water to wildlife refuges are further sub-allocated among reimbursable and non-reimbursable functions based on cost sharing criteria included in the CVPIA. Similar to what is done for refuge water supply costs, the distribution of reimbursable power costs for refuge water supply among project water and power users (M&I water, irrigation water, and commercial power contractors) is made in proportion to the previous year's costs allocated to the three reimbursable functions.

Fish and Wildlife Repayment – The repayment of costs allocated to the fish and wildlife purpose depends whether the actions involved are enhancement or mitigation. Costs incurred for enhancement are entirely non-reimbursable while costs for mitigation may be reimbursable or non-reimbursable. As described in Chapter II, the Coordination Act has been amended several times, and the year in which mitigation costs are incurred is the key factor that determines whether fish and wildlife mitigation costs are reimbursable or non-reimbursable. Reimbursable mitigation costs are assigned to irrigation and M&I water users and commercial power customers in proportion to the current year's costs of the "causal" facility assigned for repayment purposes to these three functions. As an example, the Coleman National Fish Hatchery was built to mitigate losses of anadromous fish spawning areas behind Keswick and Shasta Dams and its costs are assigned to irrigation and M&I water users and commercial power customers in proportion to the current year's costs of Keswick and Shasta Dams allocated to those three functions for repayment. If a particular "causal" facility cannot be identified (i.e., if the facility is for mitigation of project operation in general), costs are distributed in proportion to the previous year's overall project costs allocated to these three

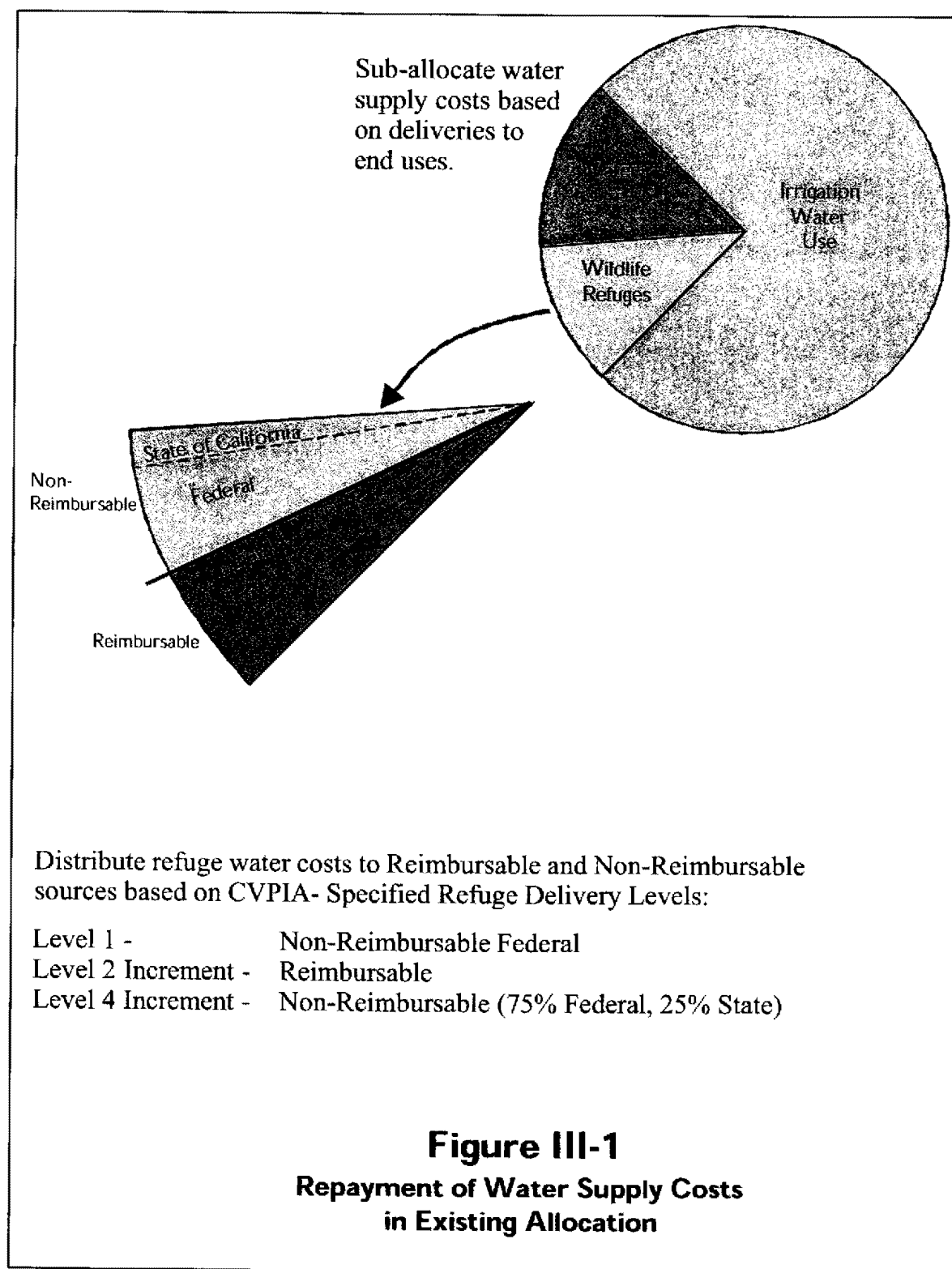
functions for repayment.

Most recently, the cost sharing criteria applied to certain activities designed to mitigate impacts on and restore fish, wildlife, and associated habitats have been Congressionally mandated by the CVPIA.

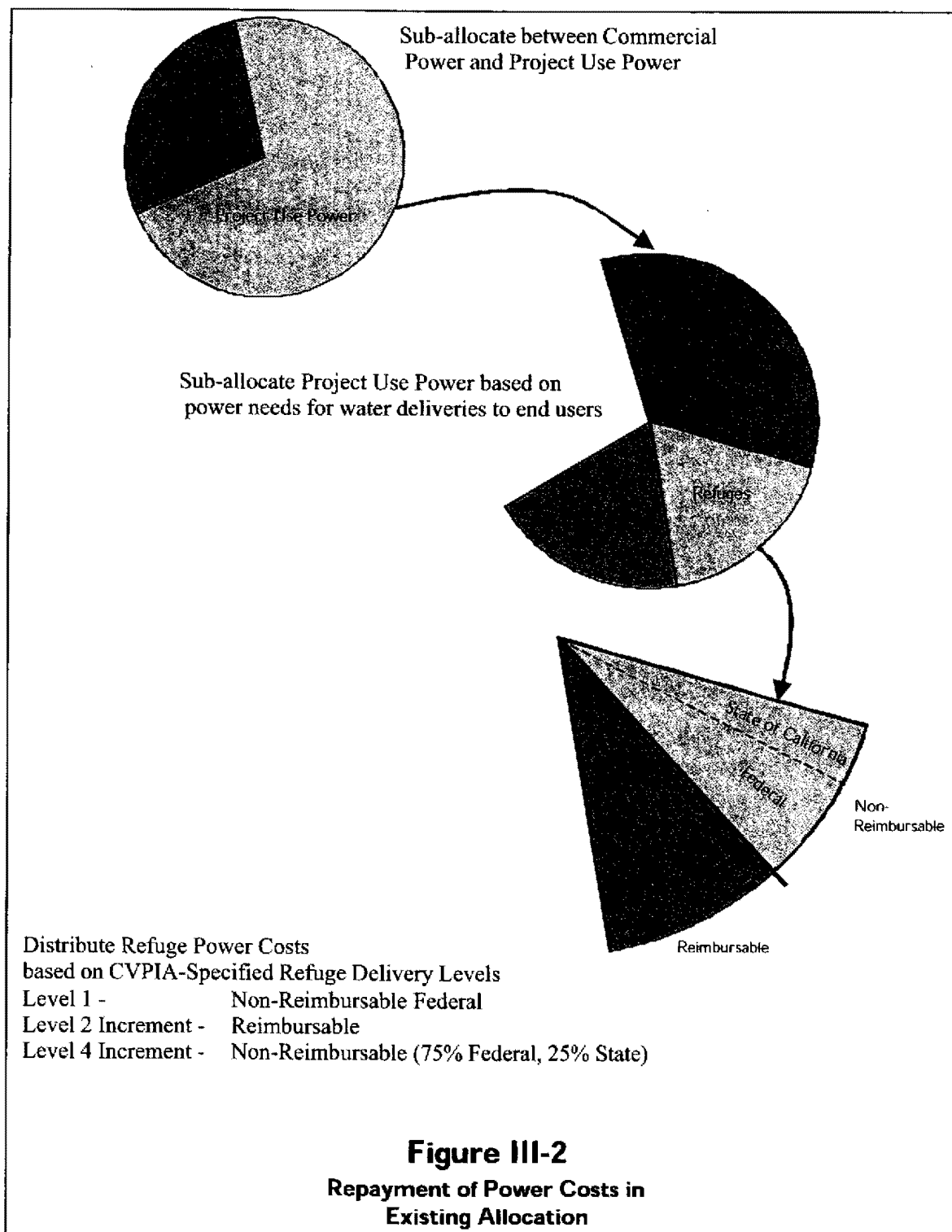
The costs of many of these activities are partially non-reimbursable and therefore paid by Federal taxpayers while a portion is repaid by the State and a portion repaid by CVP water and power users. The distribution of reimbursable costs among M&I water, irrigation water, and commercial power contractors is made in proportion to the current year's costs of the "causal" facility allocated to these three functions for repayment. In the event a particular "causal" facility cannot be identified, costs are also distributed in proportion to the previous year's overall project costs allocated to these three functions for repayment.

Recreation Repayment – Capital costs allocated to the recreation purpose are repaid according to the legislation authorizing the expenditure. In some cases, recreation facilities have been provided under the authority of the Federal Water Project Recreation Act, dated July 9, 1965, which authorizes construction of recreation facilities as a part of Federal water resources projects. The act also has provisions governing the allocation of costs to recreation and cost sharing with non-Federal entities. Legislation authorizing a number of units and divisions of the CVP has included the construction of recreational facilities and provided that the Federal share of such costs shall be non-reimbursable.

Chapter III – Existing CVP Cost Allocation



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*Chapter III – Existing CVP Cost Allocation***SUMMARY OF EXISTING CVP
COST ALLOCATION**

To date the total cost of CVP plant-in-service facilities is approximately \$3,290 million (1999 CVP interim cost allocation annual update). This amount represents total non-indexed costs incurred since construction of CVP facilities began. As noted in Chapter I, the central challenge of the allocation process is the allocation of joint costs; these amount to a total of about \$623 million (about 19 percent of total CVP plant-in-service costs).

As described above, the allocation of joint costs is a multi-step process that uses allocation factors developed in the 1975 reallocation study and applies repayment criteria provided in legislation, agreements, and policies. Although the allocation of CVP costs to its authorized purposes may be of interest, the final results of cost allocation computations are generally displayed as repayment responsibilities for reimbursable and non-reimbursable costs. A summary of repayment responsibilities from the 1999 CVP cost allocation is provided in Table III-1.

TABLE III-1

**EXISTING CVP COST ALLOCATION
REPAYMENT RESPONSIBILITIES
AS OF SEPTEMBER 30, 1999**

Repayment Entity	Cost (\$Million)
M&I Water Users	436.5
Irrigation Water Users	1,476.2
Commercial Power Customers	568.8
State of California and Local Governments	244.5
Federal Non-reimbursable	564.1
TOTAL	3,290.2
Notes: Results based on the 1999 CVP Interim Cost Allocation Annual Update. Costs for multi-purpose facilities allocated using factors derived from 1975 reallocation study. Totals may not be completely accurate due to rounding.	

Chapter IV

DEVELOPMENT OF ALTERNATIVES

As discussed in Chapter II, several methods are available to allocate the joint costs of multi-purpose projects. As an initial step in this study, a number of cost allocation methods (discussed in economics and water resources literature) were surveyed and qualitatively evaluated for possible application to the CVP. A summary of these evaluations is included in this chapter. As a result of these evaluations, certain alternatives were selected for numerical evaluation (i.e., allocations using CVP costs were prepared), with the results presented in Chapter V. This chapter provides descriptions of the allocation methods considered in more detail and discusses their applicability for use in allocating CVP costs and their potential application in this study.

CRITERIA FOR DEVELOPMENT OF ALTERNATIVES

The purposes of this allocation study guided the development of alternatives. As stated in Chapter I, the purposes are to comply with the requirement of P.L. 99-546 and to recommend revisions to the existing CVP cost allocation that will result in a streamlined process as suggested by the GAO.

Compliance with P.L. 99-546

The provisions of P.L. 99-546 directed the Secretary to operate the CVP in coordination with the State to meet salinity standards in the Delta. The standards were defined in SWRCB Decision 1485 (D-1485). P.L. 99-546 stated that costs necessary to comply with D-1485 salinity standards in the Delta should be allocated to project purposes and reimbursed in accordance with existing Reclamation law and policy. The law also stated costs necessary to meet salinity standards above those included in D-1485 should be non-reimbursable.

Shortly after passage of P.L. 99-546, Reclamation conducted hydrologic simulations of CVP operations to compare the effects of the COA operations to meet D-1485 standards with a base condition without D-1485 standards. The results of these analyses showed that the CVP could be re-operated to satisfy D-1485 requirements with no reductions in the water deliveries for long-term water service contracts. Based on these results, no additional "cost" would be incurred to comply with the law, and therefore, no change in the allocation of CVP costs was considered necessary.

In 1994, the Federal and State governments signed an accord to jointly operate the CVP and SWP, respectively, to meet the requirements of a more stringent water quality objective, as presented in the 1994 Delta Water Quality Control Plan (Bay-Delta Plan). The agreement stated that the Federal portion of the water to comply with the Bay-Delta Plan would be credited toward the amount of water to be dedicated to anadromous fishery protection under section 3406(b)(2) of the CVPIA.

Recommendations in the GAO Report

In its 1992 report, the GAO recommended the use of less costly and more streamlined methodologies to complete the CVP cost allocation study. As described in Chapter III, Reclamation has implemented numerous improvements to the spreadsheets used to complete the annual updates of the existing CVP interim cost allocation. These improvements are of two types: to correct errors previously not recognized in the allocation of project costs and to significantly reduce the time and effort to complete the allocation update computations.

The GAO also suggested two alternative approaches for the allocation of joint costs that were intended to simplify and streamline allocation computations. One method would allocate joint costs in direct proportion to specific costs assigned to each project purpose. The second method would

Chapter IV – Development of Alternatives

allocate joint costs on the basis of use and assumes that the uses of each facility for each project purpose can be accounted separately. The problem with this second method and the reason why it is not considered viable is that for some facilities there is no common unit of measurement for such an apportionment. For example, although the storage capacity of reservoirs formed by dams can often be apportioned between flood control space and water storage, such facilities are also used for hydropower production with no specific reservation of reservoir storage space for power production.

As discussed in the following sections, both allocation methods suggested by the GAO were considered in this study. The one viable GAO method, the allocation of joint costs in proportion to specific costs, was carried forward for evaluation.

ALLOCATION METHODS CONSIDERED

A variety of methods exist to allocate costs of multi-purpose projects among project users and beneficiaries. The use of different methods often gives different results. Each method has certain advantages and limitations. As described in Chapter II, no single method had been established for the allocation of costs of Federal multi-purpose water resources projects during the first half of the 20th century when many projects were in the planning stage. The resulting variation often triggered intra-agency and interagency disputes related to the selection of allocation methods. Because the selection of a cost allocation method could affect the apparent financial viability of a project, it has been said that allocation methods were sometimes used to promote the development of those project purposes with the most organizational support.

In 1954 Reclamation adopted the SCRB allocation method. Prior to that time, several other procedures had been employed. Although they are no longer used, previously used techniques, as discussed below, can be useful for understanding the use and advantages of the SCRB method. In the development of alternatives, several historical and relatively recent allocation methods were reviewed and considered for potential application to this study or for recommendation in subsequent studies.

As noted in Chapter I, the central challenge of the cost allocation process is the allocation of joint costs, and the following sections describe a variety of approaches to allocate joint costs of multi-purpose projects. Some of these methods are described simply to provide historical perspective of the issues involved in the allocation of CVP costs while others could possibly be viable methods for application to the CVP. Again, as noted in Chapter I, the scope of this study limits Reclamation's ability to undertake a complex reallocation of joint costs at this time. However, a thorough review of potential allocation methods was completed to identify methods that may be applicable in whole or in part for the purposes of this study. The methods are not presented in order of potential application or preference.

In general terms, cost allocation methods considered in this study can be organized into four groups: quantity-based methods, priority-based methods, benefits-based methods, and user-group methods. Quantity-based methods are founded on the premise that joint costs can be shared in proportion to physical characteristics or the costs of single-purpose facilities. These approaches are relatively simple to comprehend, but often difficult to apply in practice. Priority-based methods assume that project purposes can be ranked in order of priority, and joint costs can be allocated based on these priorities. Benefits-based methods consider the benefits of a project or can employ measures of alternative costs to achieve the benefits for each purpose. Although benefits-based methods are more complex and time-consuming to apply, they provide a common base (dollars) on which to measure benefits for a variety of purposes. User-group methods focus on cost allocation arrangements under which different user groups, representing project purposes, would join together to pursue a multi-purpose project.

*Chapter IV – Development of Alternatives***Quantity-Based Methods**

Some early cost allocation procedures were based on measurable physical criteria such as “use of space” or “water released.” For application to multi-purpose projects, however, it was found that such approaches often did not adequately measure the extent of use by the various purposes involved.

For example, it was difficult to compare the use of reservoir space reserved for water storage with that used for flood control since the former had no specific reservation in CVP reservoirs. The physical approach was also found to be unsatisfactory because it did not provide a common denominator for all purposes involved. For example, physical measurement procedures do not adequately recognize that fish and wildlife benefits can be realized without the release of additional water over the amounts used for irrigation, power generation, and flood control.

Each of the following methods utilizes a quantity (physical or financial) associated with facilities to allocate joint costs. The advantages and disadvantages of each method are described.

Use of Facilities – The use of facilities method is based on the premise that joint costs should be allocated among the various purposes in proportion to their amount of “use” of the multi-purpose facilities. Two different approaches may be taken in determining the meaning of the term “use.” The first is related to capacity of a project facility, or “readiness to serve.” The second concerns the quantities of water actually involved.

As an example, consider a canal that serves water to both irrigation and M&I users. Although irrigation and M&I are considered as a single-purpose (water supply) in the CVP cost allocation, it provides a good example of the application of this method.

Under the capacity-driven approach, the canal cost would be assigned to the two functions (irrigation and M&I) in proportion to the canal capacity required by each to meet its peak flow demands. In practice, neither function would use its entire capacity all of the time, but the canal would be scaled in size to meet “peak” combined demands, which usually occur in midsummer. The chief merit of this method is that it charges each function

according to the magnitude of its use or its “readiness to use.” However, application to a true multi-purpose facility, such as a reservoir, would require an estimate of costs for single-purpose projects, as described in a subsequent method, and as noted previously such effort was beyond the scope of the study. Because of this and because of the problems with capacity-based measures generally (discussed above), capacity-driven use of facility method was dropped from further consideration.

Under the quantity of water approach, the canal costs would be allocated to the irrigation and M&I functions proportionate to the actual quantity of water delivered for each purpose during a year. This approach is currently applied in the sub-allocation of CVP water supply costs among M&I, irrigation, and wildlife refuges, and is utilized in the allocation of water supply facilities in the San Luis Unit and San Felipe Division. Therefore, this method is retained for application in the sub-allocation of CVP water supply costs.

Reservation of Dedicated Space – This method would allocate joint costs among project purposes based on the proportional reservation of the facility for each purpose. This method may appear well suited for the allocation of dam and reservoir costs but requires a common unit of measurement for all project purposes. For the CVP it may be most applicable for allocating costs to the flood control purpose since storage space is reserved for flood control. This method, however, cannot be used to allocate the costs of CVP dams and reservoirs to other project purposes because the operation of the CVP includes no explicit reservation for recreation, water supply, fish and wildlife, navigation, power, or water quality. This method was retained for possible use in “creating” a separable cost for flood control in the development of an alternative for further consideration.

Separate Projects Method – The separate projects method may divide either (1) the total cost of a project or (2) the joint cost (after first allocating the specific or separable costs to the purposes) in proportion to the cost of obtaining the same project benefits by constructing suitably sized

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single-purpose projects. Because alternative projects need not be justified this method may produce unreasonable results – a limitation that has prevented wide acceptance of this method. Due to its limited acceptance and the significant effort that would be required to develop conceptually separate projects, this method was dropped from further consideration.

Equal Apportionment Method – Since there is no fixed mathematical formula for allocating costs, this method apportions either all of the costs of the project, or its joint costs, equally among the purposes. Obviously, the results of such a method could be considered arbitrary and even unreasonable unless the respective purposes produced benefits that were approximately equal. For example, it could easily result in an allocation in which one project purpose was allocated costs greater than the benefits received. Since this method was considered arbitrary, it was dropped from further consideration.

Priority-Based Methods

The following methods are based on the assumption that multi-purpose projects are designed and operated to meet a primary purpose and that all other purposes are subsidiary.

Priority of Use Method – The priority of use method is based on the premise that when a project is operated primarily for one purpose and secondarily for another, the primary purpose should be assigned a greater portion of the cost. In all multi-purpose projects, the various purposes compete with each other to some extent for the use of water or storage space. The purposes have different time requirements for the periods of optimum release and storage of water; thus, all of them cannot be served in the most advantageous manner. If this method were to be developed, significant study would be required to evaluate potential project operations under a variety of prioritization schemes. This approach would be needed to identify the extent to which priority is given to each project purpose. Furthermore, at least in the case of the CVP, these priorities may change over time, further complicating a determination of the way to apply the method. The recognition that multi-purpose facilities of the CVP are often

operated to meet multiple priorities and that significant cost would be required to complete a series of operations studies suggests that this method may not be appropriate for the allocation of CVP costs. Therefore, this method was dropped from further consideration.

Incremental Method – The incremental method allocates the separable costs to their respective purposes and the total joint cost to one basic purpose, considered to be the principal or basic purpose of the project. An example would be found in a multi-purpose project serving flood control, irrigation, and electric power. If flood control were identified as the primary purpose, flood control would be allocated its separable cost plus all of the joint costs. Then, the irrigation and power purposes would be allocated only their respective separable costs. This method is not considered applicable to the CVP since the project was not authorized nor is operated to meet a primary purpose. Therefore, this method was dropped from further consideration.

Specific Costs Method – The specific cost method is a variation of the incremental method. Instead of allocating separable costs to the incidental purposes, only specific costs are allocated to those purposes. The remaining joint costs are then assigned to the primary purpose. Using this method may be justified where a purpose is added after a project has been completed. For example, dams are sometimes built containing penstocks, but no other facilities for power generation. When generation facilities are added after passage of a number of years, they might legitimately be considered to be a new project. This “new project” concept might utilize the specific costs method of allocation. This method is also not considered applicable to the CVP since the project was not authorized, nor is it operated, to meet a primary purpose. Therefore, this method was dropped from further consideration.

Benefits-Based Methods

Because of the limitations inherent in the use of measurable physical criteria, attention was focused on approaches based on benefits. Theoretically, there are many advantages to the benefits concept because it not only measures the extent of use but

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also provides a common denominator for all purposes involved. However, a method strictly based on benefits does not recognize the possibility of securing comparable effects at less cost through alternative means. Thus, methods that recognize both benefits and alternative costs have been developed and reviewed below. The AJE method and the SCRB method are examples of methods that combine benefits and alternative costs.

Each of the benefits-based methods discussed below depends on the benefits obtained from the various purposes served. All three approaches limit the cost allocated to any purpose so that it will not exceed the corresponding benefits. A principal difficulty in all the procedures is the necessity of estimating all benefits on a comparable basis and stating them in monetary values.

The Benefits Method – The benefits method allocates the total cost of the project among the various purposes in proportion to their estimated benefits. This assumes that the entire project can be considered a joint cost. Another procedure also referred to as the benefits method first allocates specific costs to each purpose, then allocates a share of the joint cost in direct proportion to the estimated net benefits accruing to it. The latter procedure is similar to the AJE method described below.

Alternative Justifiable Expenditure Method – The AJE method fundamentally and indirectly rests on an estimate of benefits, but it is directly based on the justified investment for each purpose. The maximum justified investment is the smaller of either (1) the benefits ascribed to the purpose or (2) the cost of the most economical alternative single-purpose project which would achieve substantially the same benefits as does that purpose in the multi-purpose project. The lesser of these two amounts, called the alternative justifiable expenditure, represents the largest investment that could be justified for a purpose in the multi-purpose project. This means that no more should be spent on any project purpose than (1) the value of the benefits it will produce, or (2) the cost of producing those benefits by the least expensive alternative source. The approach is used to establish the maximum cost allocated to each project purpose. The minimum allocation to each project purpose is

the specific cost incurred for each purpose.

Examples of single-purpose alternative projects are thermal instead of hydro powerplants, rail instead of water transportation, and levees instead of storage space for flood protection. The alternative projects are hypothetical, and there are instances where an alternative for one purpose is located within the same space as the alternative of another, which is a physical impossibility. However, this does not prevent the use of the estimated costs of these alternatives in allocating the investment in a multi-purpose project.

After the maximum justifiable investment is determined for each purpose, the respective specific costs in the multi-purpose project are subtracted from it. Specific costs are the costs of individual physical features that serve only a single purpose.

The balance is called the remaining justifiable expenditure. The joint cost—which is the total project cost minus the sum of all the specific costs—is allocated among the various purposes in direct proportion to the remaining justifiable expenditures.

Each allocated joint cost is then added to its respective specific cost in order to arrive at the total allocation to each purpose.

The AJE method has several advantages. First, no purpose is assigned costs greater than the value of its services or costs less than its specific costs.

Second, AJE may be tied closely to the project's original formulation procedure by use of the same single-purpose alternatives and benefits for each purpose. If a significant period of time has passed since the original project formulation, however, the benefits and appropriate single-purpose alternative may have changed.

The AJE method, however, has two major shortcomings. First, because of budgetary and staffing constraints, the cost of alternative projects generally will not receive as thorough an investigation as will a project contemplated for construction, and, second, the economic basis for this method is uncertain because it is usually impossible for all of the alternative projects to coexist. These shortcomings raise questions as to whether the alternatives are, in fact, the most economical alternative sources. Simply stated, in the absence of the multi-purpose project, all of its

accomplishments could not be realized by a series of single-purpose projects at the cost indicated in the allocation study.

Separable Costs-Remaining Benefits Method – The separable costs-remaining benefits procedure is basically a variation of the AJE method.

The SCRB method uses the lesser of benefits or single-purpose alternative costs to determine the maximum allowable allocation, or justifiable expenditure, for each purpose in the same manner as AJE. However, from it the separable (instead of specific) costs are subtracted to obtain the remaining justifiable expenditure. Since separable and specific costs will often differ, the proportionate allocation of the joint costs will generally be different from that derived by the AJE.

The justifiable expenditure is the maximum and the separable cost is the minimum amount allocated to any purpose. The separable cost for each purpose is the difference between the cost of the multi-purpose project and the cost of the project with the purpose omitted. Separable costs usually include more than the specific costs of physically identifiable facilities serving only one purpose. Separable costs include all added costs of increased size of structures and changes in design for a particular purpose over structure size and design required for all other purposes. An example would be the cost of increasing reservoir storage capacity. Separable costs are usually higher than specific costs; however, the two may, on occasion, be equal. Specific costs can never exceed separable costs because specific costs are, by definition, also separable. When the two are equal, the SCRB and AJE methods are identical.

The sum of the separable costs is subtracted from the total project cost to obtain the joint cost, which is then allocated among the purposes in proportion to the remaining justifiable expenditure for each purpose in the same way as for the AJE method. Separable costs and allocated joint costs for each purpose are added together to complete the allocation process.

The SCRB method, which is very similar to the AJE method, has most of the same advantages and disadvantages. However, using separable rather than specific costs usually reduces the amount of

joint costs and increases minimum allocations to project purposes.

One disadvantage is that separable costs are not easily determined and generally require extensive expense and time to estimate. For the current CVP, even historical information on specific design details, quantities, and alternative facility designs are not always available and would need to be redeveloped before separable costs could be re-computed. The extensive level of effort necessary to estimate updated separable costs was not anticipated in the budget for this study. Therefore, the development of a new SCRB-based allocation was not considered for this study, but the SCRB method, employed in earlier cost allocations, was retained because of its many advantages and because it has remained the procedure established for use by Federal water resources agencies. The use of separable and joint cost allocation factors developed in the 1975 reallocation study was retained for consideration.

User Group-Based Methods

Shapley Value Method – The Shapley value method uses information on all possible combinations of users to derive a unique cost allocation that should be acceptable to all users as long as all of the alternative cost functions are “well behaved.” This latter phrase means that (1) the sum of the costs serving each user (or group of users) alone is greater than the project cost of serving them, and (2) each user (or group of users) has a benefit or alternative cost for his (their) share of the water supply that exceeds the incremental cost of providing project water to him (them).

The cost allocation for a user is derived as a weighted average of all the marginal costs of adding the user to every possible group. These groups include the “going-it-alone” option. The weights assume that every group is equally likely and are based on the number of users. The weights are one divided by the number of possible sequences in which all users could have joined the project. The number of possible sequences is N-factorial where N is the number of users. If there are four users, for example, then the number of sequences is $4 \times 3 \times 2 \times 1$ or 24, and the weights are $1/24$.

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The major problem with this method is that it requires not only benefit estimates but also a large number of cost estimates in the case where the number of users is large. If there are 5 or 6 users, for example, the number of required cost estimates becomes 120 and 720, respectively. The Shapely method results in a cost allocation in which each user covers its separable costs.

Game Theory Methods – Game theory is the study of the progress and outcome of games, conducted under a specified set of rules, and involving a number of players. Cooperative games are situations in which the players may be able to gain by cooperating with the other players. Cost allocation problems are much like a cooperative game. Each purpose is represented by a player, and the purpose may be accomplished for less cost by participating in the project as opposed to going it alone. If the purpose has a benefit that exceeds the minimum cost of participating (the separable cost), and if this minimum cost is less than the cost of non-participation (the alternative cost), then the player will choose to participate. The most he would pay is the separable cost plus the cost savings from not incurring the alternative cost. These methods also require not only benefit estimates but also estimates of numerous alternatives, and they tend not to be easily comprehensible.

Both Shapley Value and Game Theory methods require significant amounts of data on benefit estimates and alternative costs, extending beyond the scope of this study. In addition, they are conceptually quite complex and often a challenge to comprehend and were not considered appropriate for this study.

ALLOCATION ALTERNATIVES DEVELOPED

After completing review of the various methods described above, three alternatives were developed for evaluation in this study. These include the existing cost allocation (Existing Allocation), which will form the basis of comparison; an alternative in which joint costs are allocated in proportion to specific costs consistent with a suggestion from the GAO (Proportional Alternative); and an alternative proposed by the water and power contractors

(Contractors' Proposal). (The text of the contractors' proposal is included as Appendix A.) Each of these cost allocation alternatives is described in the following sections and summarized in Table IV-1.

Existing Allocation

The existing CVP cost allocation comprises the no-action alternative and would involve continued use of the procedure described in Chapter III to allocate joint costs. In general, this alternative would utilize joint cost allocation factors based on SCRB analysis completed for the 1975 reallocation study.

Proportional Alternative

This alternative was developed based on a suggestion from the GAO and would allocate joint costs in proportion to specific costs. The costs of single-purpose facilities would be summed to determine the total specific cost for the CVP. The proportion of total specific cost incurred for each purpose would be determined and applied to total joint costs to allocate them among project purposes. The total allocation to a purpose would be the sum of specific and joint costs allocated to it.

Development of this alternative requires careful determination of total specific and joint costs. The following steps were taken to identify which costs should be included as specific or joint costs and to make adjustments to create a specific cost total for flood control. Beginning with the total project costs (\$3,290 million in the 1999 allocation) the following adjustments were made. (Costs of facilities subject to adjustment and joint costs are shown in Appendix B.)

TABLE IV-1
CHARACTERISTICS OF
COST ALLOCATION ALTERNATIVES

Characteristic	Existing Allocation	Proportional Alternative	Contractors' Proposal
Allocation of Joint Costs	Continues use of joint cost allocation factors as computed in 1975 SCRB.	Allocates joint costs in proportion to expenditures for specific project purposes.	Uses joint cost allocation factors computed in 1970 SCRB.
Allocation of CVPIA-dedicated water	Reduction in deliveries resulting from CVPIA implementation is reflected in historic and projected water deliveries to irrigation and M&I users.	Same methodology as existing allocation.	<p>Reduction in deliveries resulting from CVPIA implementation is reflected in historic and projected water deliveries to irrigation and M&I users.</p> <p>Establishes the "environment" as a water user and includes "delivery" of up to 800,000 acre-feet per year of water to the environment. The quantification this water is based on an assumed rate of buildup designed to reflect project operations.</p> <p>This approach increases the total water delivery base used to sub-allocate water supply costs among repayment functions.</p>

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Characteristic	Existing Allocation	Proportional Alternative	Contractors' Proposal
Repayment of water supply costs	<p>Repayment of water supply costs is proportional to historic and projected water deliveries to end-users over the life of the project.</p> <p>Water supply costs are sub-allocated in proportion to deliveries to irrigation, M&I, and wildlife refuges.</p> <p>Reimbursable costs associated with deliveries to wildlife refuges are distributed in proportion to repayment obligations for irrigation, M&I and commercial power customers.</p>	Same methodology as existing allocation.	<p>Same methodology as existing allocation, but applied to the increased total water delivery base as follows.</p> <p>A portion of the 800,000 acre-feet added to the water delivery base is considered "mitigation" and the remainder is considered "enhancement."</p> <p>Water supply costs associated with the "mitigation" portion of the 800,000 acre-feet are sub-allocated to the irrigation, M&I, and commercial power repayment functions using the same methodology as the existing allocation.</p> <p>Water supply costs associated with the "enhancement" portion of the 800,000 acre-feet are not repaid by water and power users.</p>
Repayment of power costs	<p>Total power costs are sub-allocated among project use and commercial power functions based on power generation and use analysis completed by Reclamation.</p> <p>Project use power costs are distributed in proportion to water deliveries to irrigation, M&I, and wildlife refuge uses.</p> <p>Reimbursable project use power costs associated with deliveries to wildlife refuges are distributed in proportion to repayment obligations for irrigation, M&I and commercial power customers.</p>	Same methodology as existing allocation.	Same methodology as existing allocation.
Repayment of reimbursable fish and wildlife mitigation costs	Repayment responsibilities are apportioned based on the repayment responsibilities associated with capital costs associated with the "causal" facility. CVPIA cost shares set by Congress.	Same methodology as existing allocation.	Same methodology as existing allocation.

Chapter IV – Development of Alternatives**Exclude Certain Costs from Allocation**

The non-reimbursable CVP cost components and authorized deferred use discussed in Chapter III amount to more than \$135 million and are excluded from the portion of the proportional alternative spreadsheet that calculates the joint cost allocation factors. In addition, the State share of San Luis Unit costs, totaling \$224 million, was also excluded from that portion of the spreadsheet. In summary, the costs excluded are of the following types:

- Federal share of Safety of Dams improvements
- Archeology, highway improvement
- Non-reimbursable IDC
- Capitalized movable equipment
- Buildings and service facilities
- Authorized deferred use
- State share of San Luis Unit

Exempt Certain Costs from Allocation In the specific cost total used to allocate joint costs, it was considered inappropriate to include the costs of multi-purpose facilities constructed and allocated by the COE and transferred to Reclamation or the costs of facilities with previously fixed allocations. It was also considered inappropriate to include local distribution facilities that are subject to repayment contracts since these facilities are paid for by separate contracts and not included in the water and power rates that result from the allocation. Also distribution systems can be separated from main project facilities and could have been non-Federally financed. A total of approximately \$1,123 million in costs was removed from the portion of the spreadsheet that calculates the joint cost allocation factors. A summary of features exempted is provided in Table IV-2.

Create Specific Cost for Flood Control

The removal of the costs of features shown above reduced the total of specific and joint costs to approximately \$1,808 million, of which \$623 million is considered joint costs and \$1,185 million specific costs. No single-purpose CVP facilities have ever been constructed for flood control. Thus, although flood control is an authorized purpose of the CVP and significant flood control benefits are realized by the project, the Proportional Alternative would allocate no joint cost to this purpose. A similar problem also emerges for navigation and water quality, which are authorized purposes with no specific costs.

As a means to recognize that flood control is an important authorized purpose of the CVP, an adjustment was made to the specific and joint costs described above. The reservation of dedicated space method was used to estimate the portion of total reservoir storage capacity that is reserved for flood control and therefore not available to all other purposes. A simplified approach was selected to minimize the effort required to calculate this cost. The specific costs for flood control in three reservoirs, Shasta, Folsom, and Millerton, were calculated using a weighted-average factor based on the percent of total reservoir space reserved for flood control each month. The resulting factors were applied to the total costs for these facilities to create "specific" costs for flood control. In total, this approach shifted approximately \$24 million from joint costs to specific costs for flood control, resulting in a total of \$599 million in joint costs and \$1,209 million in specific costs. Then the allocation of specific costs was used to determine the allocation of the joint costs. It is important to note that any changes over the life of the project in the space reserved for flood control would change the level of specific costs allocated to flood control and then the allocation of project joint costs.

TABLE IV-2
FEATURES EXEMPT FROM PROPORTIONAL ALTERNATIVE

FEATURE	REASON FOR EXEMPTION
<p style="text-align: center;">Items transferred by the COE</p> <ul style="list-style-type: none"> • New Melones Dam, Reservoir and Powerplant • Black Butte Dam and Lake • COE Repayment Assumed 	<p>Multi-purpose projects with cost allocations and repayment obligations determined by the COE.</p>
<p style="text-align: center;">Features Not Integral to the CVP</p> <ul style="list-style-type: none"> • M&I Distribution Systems with Repayment Contracts • Irrigation Distribution Systems with Repayment Contracts • Western Interties • San Felipe Division 	<p>The repayment contracts pertain to facilities that are paid for specifically by water districts and do not, therefore, affect water and power rates. Additionally, these facilities can be separated from main project features. The costs of the Interties are repaid entirely by commercial power users. The San Felipe Division is out-of-basin and not an integral part of the water- and power-generating CVP.</p>
<p style="text-align: center;">Facilities with Fixed Allocations</p> <ul style="list-style-type: none"> • Los Banos Dam – Federal-Only Portion • Spring Creek Debris Dam 	<p>The allocation of the costs of the Federal share of Los Banos Detention Dam and Spring Creek Debris Dam were fixed prior to 1970.</p>

Contractors' Proposal

In October 1999, the CVP water and power contractors jointly presented a proposed alternative to allocate CVP costs for consideration in this study. Upon review, Reclamation decided to include the proposal as an alternative. The Contractors' Proposal, as interpreted by Reclamation, is based on the existing cost allocation but contains two significant components that would alter the allocation and repayment of CVP costs. First, the proposal includes the use of a slightly revised version of Base I joint cost allocation factors calculated in the 1970 reallocation study rather than the factors calculated in the 1975 study. Second,

the proposal specifically takes into account the environmental re-operation of the CVP by creating an environmental water use account.

Joint Cost Factors – As noted in Chapter II, the 1970 reallocation study separated the CVP into units, or bases, with each base allocated separately, and these allocations were summed to derive the allocation for the entire CVP. Base I consisted of the Trinity River, American River, Sacramento River, Friant, Shasta, and Delta Divisions. This practice was continued in the 1975 reallocation study. Table IV-3 shows the joint cost allocation factors for Base I.

TABLE IV-3
COMPARISON OF JOINT COST ALLOCATION FACTORS FOR BASE I FACILITIES

PURPOSE	1970 ALLOCATION	1970 ALLOCATION REVISED BY CONTRACTORS	1975 ALLOCATION
Water Supply	0.54180	0.54344	0.55790
Power	0.05630	0.05883	0.21810
Fish and Wildlife	0.01920	0.02004	0.0
Flood Control	0.36120	0.35520	0.20490
Navigation	0.02150	0.02249	0.01910
Recreation	0.0	0.0	0.0
Water Quality	0.0	0.0	0.0
Total	1.00000	1.00000	1.00000
Note: Totals may not be completely accurate due to rounding.			

The joint cost allocation factors for the 1970 cost allocation have been revised slightly in the Contractors' Proposal. In the 1970 reallocation study, Friant Dam and Reservoir were treated in the same way as other Base I dams and reservoirs, with the result that some of Friant's cost were allocated to power. Friant, however, has no power-generating facilities. In the 1975 reallocation study, Reclamation allocated costs for Friant Dam and Reservoir costs to water supply and flood control only. The contractors adopted this approach and prepared a new allocation for Friant, and as a consequence, their version of the 1970 joint cost allocation factors differs slightly from the original. Hereafter, reference to the 1970 joint cost allocation factors in this report will mean the revised set as presented in the Contractors' Proposal.

As one can see from Table IV-3, the most significant difference between the 1975 and 1970 joint cost allocation factors concerns power and flood control. The power factor increased to 21.8 percent in 1975 from 5.9 percent in 1970 while flood control fell to 20.5 percent in 1975 from 35.5 percent in 1970. In the 1970 study, the single-purpose power alternative was a fossil fuel powerplant while a nuclear powerplant was used in

the 1975 study. Power values were provided by the Federal Power Commission.

For both studies, the cost of the single-purpose power alternative was less than the value of power benefits and was used in the SCRB methodology as the justifiable expenditure. From the 1970 allocation to the 1975 allocation, the justifiable expenditure for power more than doubled while the separable power cost, which is subtracted from the justifiable expenditure to obtain the remaining justifiable expenditure, increased by two-thirds. As a result the remaining justifiable expenditure for power increased significantly in comparison to that for other project purposes, and since the joint cost factors are based on the distribution of remaining justifiable expenditures among project purposes, the joint cost allocation factor for power increased significantly. The remaining justifiable expenditure for flood control actually fell slightly in 1975, and its joint cost allocation factor also fell.

The Contractors' Proposal recommends use of the 1970 joint cost allocation factors for Base I for the following reasons.

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1. The 1970 reallocation study is the last major allocation of the CVP. Although documentation for both the 1970 and 1975 allocation studies is limited, the contractors' review of the 1970 study stated that its underlying assumptions are reasonable.
2. From the contractors' perspective, the power assumptions used in 1970 study are more representative of power industry conditions existing throughout the 1970s than those used in the 1975 study, and the 1970 powerplant assumptions are more representative of subsequent periods after nuclear energy was no longer a viable energy resource when the period of spiraling energy prices, which characterized the mid-1970s, had ended.
3. According to the Contractors' Proposal, the allocation of multi-purpose costs to flood control would be "properly restored to a reasonable and equitable level." Partial flood control studies of parts of the CVP since 1975 have given a strong indication that flood control benefits are substantially understated, even for 1970.

Environmental Water Use Account

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

The Contractors' Proposal also contends that section 3406(a) of the CVPIA amended the Act of August 26, 1937, to establish the environment as a new project purpose. The new purpose was established to mitigate, protect, restore, and enhance the environment. As noted in Chapter II, although

section 3406(b)(2) of the CVPIA dedicates 800,000 acre-feet of CVP yield toward fish and wildlife activities, it is silent on the issue of cost sharing/allocation. By contrast, section 3406(d) of the act addresses water supplies for wildlife refuges and is much more specific regarding repayment of associated costs. Reclamation's *Report on Refuge Water Supply Investigations*, March 1989, on which the refuge water requirements in section 3406(d) are based, identifies water supplies known as Level 1, 2, and 4. Level 1 supplies are a part of the larger Level 2 and refer to water rights refuges already had at the time and water supplied pursuant to the Act of August 27, 1954. Level 2 supplies were then current average annual water deliveries to refuges while Level 4 was an increment of water beyond Level 2 needed to bring the refuges to optimum management.

The first sentence of section 3406(d)(3), which addresses repayment of the costs of supplying water to the refuges, states that all costs associated with implementation of paragraph (1) of this subsection shall be reimbursable pursuant to existing law. Paragraph (1) deals with Level 2 refuge water supplies. The remainder of the subsection specifies that 75 percent of the cost of the increment from Level 2 to Level 4 will be Federal non-reimbursable and 25 percent be borne by the State. Reclamation's interpretation of section 3406(d)(3) treats the costs of Level 1 supplies as non-reimbursable while the costs of the remainder of Level 2 are reimbursable by water and power users. Reclamation considers it significant that Congress was specific in addressing the allocation of costs of refuge water supplies in the CVPIA, but made no mention of associating costs with the dedication of 800,000 acre-feet of water or of allocation of such costs.

To reflect the changes in re-operation of the CVP, the contractors propose including the environment as a new project function for the sub-allocation of costs allocated to water supply. Up to 800,000 acre-feet of environmental water dedicated by section 3406(b)(2) of the CVPIA would be treated as an additional CVP water supply, and water supply costs would be assigned to it. As noted above, section 3406(b)(2) is silent on the issue of cost sharing/allocation. The Contractors' Proposal

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would treat the repayment of costs associated with the environmental water similarly to the repayment requirements specified for many of the actions mandated in section 3406(b)(4)-(23) of the CVPIA.

For many of these actions, 37.5 percent of the cost is to be repaid by water and power users, 37.5 percent is a Federal non-reimbursable cost, and 25 percent is to be repaid by the State. Thus from the point of view of water and power users, 62.5 percent of these costs are non-reimbursable. The proposal would treat 37.5 percent of the costs associated with the environmental water account as reimbursable by water and power users, and the remaining 62.5 percent would be considered non-reimbursable. Since under Reclamation law the costs of fish and wildlife mitigation measures for recently constructed facilities are generally reimbursable, this cost sharing arrangement would be tantamount to treating 37.5 percent of the environmental water as mitigation water and the remaining 62.5 percent as enhancement water.

As illustrated in Figure IV-1, from 1993 through 2006, while Stage I of the CalFed environmental restoration actions are being completed, the quantity of environmental water would gradually increase each year on a schedule provided in the proposal. The proposal considers all of this water to be for mitigation, and the costs associated with it would be totally reimbursable. Beginning in 2007 when the proposal assumes that restoration actions would be complete, there would be a dramatic increase in environmental water use because enhancement would begin. The repayment of associated costs would be treated as 37.5 percent reimbursable (mitigation) and 62.5 percent non-reimbursable (enhancement). By the end of the CVP repayment period in 2030, the environmental water account would have increased to the full 800,000 acre-feet, with the costs associated with 300,000 acre-feet, representing 37.5 percent of the 800,000 acre-feet, repaid by water and power users and the remainder non-reimbursable.

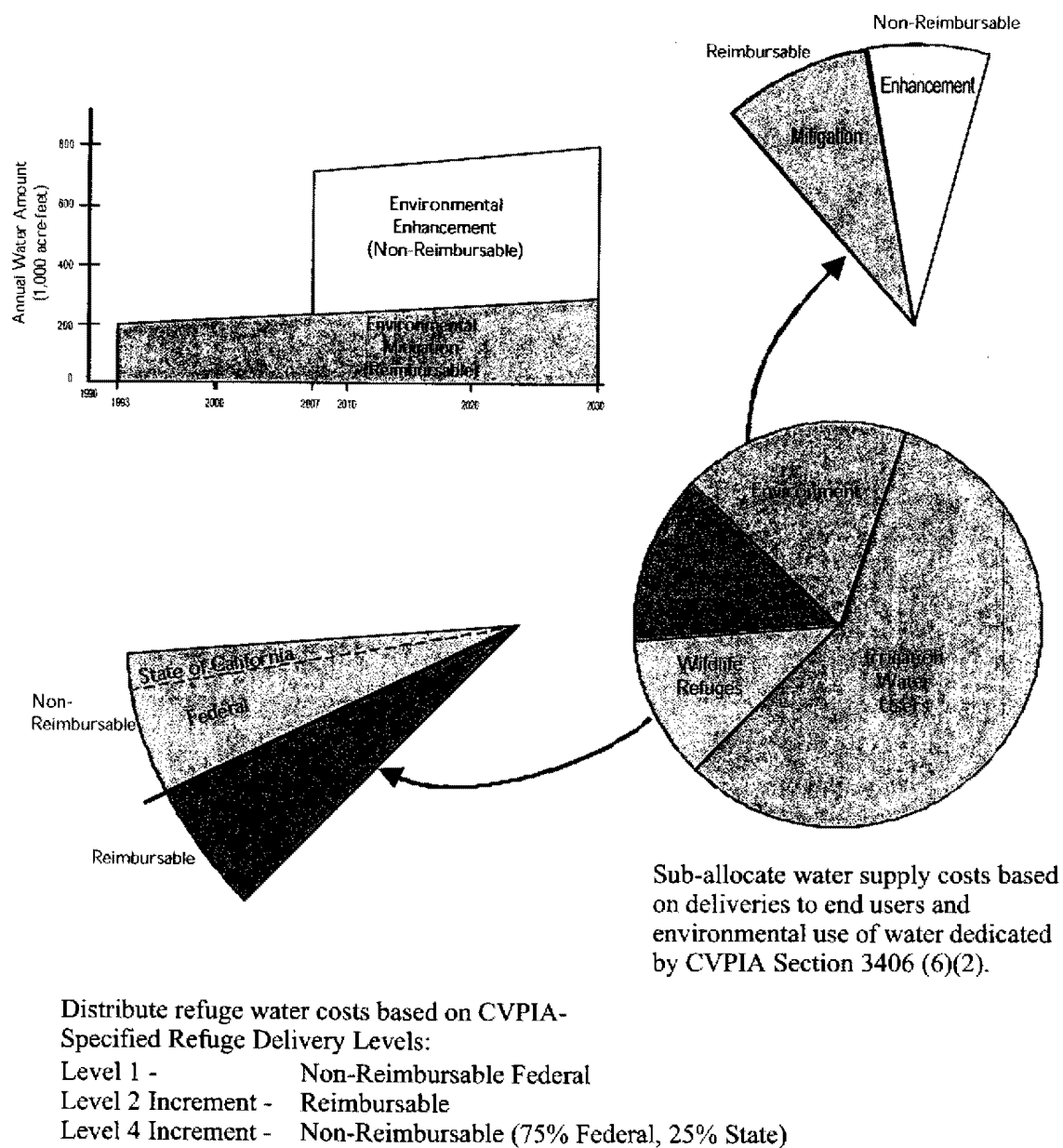
Chapter IV – Development of Alternatives

Figure IV-1
Repayment of Water Supply Costs
in Contractors' Proposal

Chapter V

COMPARISON OF ALTERNATIVES

For the three alternatives considered in this study, this chapter presents the results of the allocation of costs to the seven authorized purposes of the CVP and then the determination of repayment responsibilities. The computational process is described and results for key steps are provided. Results for the Proportional Alternative and the Contractors' Proposal are compared to those for the Existing Allocation.

EXISTING ALLOCATION

As described in Chapter III, the Existing Allocation is based on cost allocation factors developed in the 1975 cost reallocation study. That study, which was undertaken as an update to the 1970 reallocation study, utilized the SCRB method to develop separable and joint cost allocation factors for the multi-purpose facilities in the CVP. The allocation of multi-purpose features that were constructed by the COE and transferred to the CVP for financial integration and repayment was not modified from the COE allocation. Although Folsom

Dam and Reservoir were constructed by the COE, these costs were allocated by Reclamation using the factors developed in the 1975 reallocation study.

To date the total cost of CVP plant-in-service facilities is approximately \$3,290 million (1999 CVP interim cost allocation annual update). This amount represents total non-indexed costs incurred since construction of CVP facilities began. Of this amount, a total of about \$623 million (about 19 percent of total costs) represents joint costs of multi-purpose facilities that were constructed by Reclamation. Table V-1 identifies portions of this amount that are allocated using separable or joint cost allocation factors developed in the 1975 SCRB reallocation. This process was described in Chapter III. The remaining plant-in-service costs, amounting to more than \$2.6 billion, represent costs of single-purpose facilities, costs not subject to allocation to one of the seven authorized purposes of the CVP, or costs of multi-purpose facilities for which the allocation of separable and joint costs was made by the COE.

TABLE V-1
COSTS ALLOCATED USING SEPARABLE AND
JOINT COST ALLOCATION FACTORS

ITEM	(\$MILLION)
Costs allocated using joint factors	469.3
Costs allocated using separable factors	153.5
TOTAL	622.7
Note: Totals may not be completely accurate due to rounding.	

Chapter V – Comparison of Alternatives

Total costs allocated to the seven authorized purposes of the CVP can be classified into three categories. These are costs of single-purpose facilities that are allocated in total to that purpose, costs of multi-purpose facilities that are allocated by Reclamation using factors from the 1975 SCRB reallocation, and costs of COE-constructed facilities allocated by it. Table V-2 summarizes the allocation of CVP plant-in-service costs as of September 30, 1999, to the seven authorized project purposes and also lists those costs not subject to allocation to these purposes.

Repayment of allocated costs in the Existing Allocation is based on repayment criteria applicable to each project purpose. As described in Chapter III, costs allocated to water supply and power are sub-allocated to reimbursable and non-reimbursable functions based on the proportion of water delivered or power used in the delivery of water for specific functions. Water supply costs are sub-allocated based on the sum of historic and projected water deliveries to irrigation and M&I water users and to wildlife refuges. Power costs are first sub-allocated between project use and commercial power functions based on a power generation.

TABLE V-2
ALLOCATION OF PROJECT COSTS IN THE
EXISTING ALLOCATION

ITEM	Cost (\$Million)
Project Purposes	
Water Supply	1,790.8
Power	665.1
Fish and Wildlife	263.4
Recreation	69.1
Flood Control	138.0
Navigation	5.8
Water Quality Improvement	5.5
Subtotal	2,937.7
Other Authorized Costs	
Authorized deferred use	56.9
Archeological, cultural, historical	4.1
Highway improvement	14.7
Non-reimbursable IDC	27.2
Safety of dams	25.6
State Share of San Luis	224.1
Subtotal	352.6
TOTAL	3,290.2
Notes: Results based on the 1999 CVP Interim Cost Allocation Annual Update. Costs for multi-purpose facilities allocated using factors derived from 1975 reallocation study. Totals may not be completely accurate due to rounding.	

Chapter V – Comparison of Alternatives

and use study completed by Reclamation. Then, costs associated with project use power are further sub-allocated to irrigation, M&I and wildlife refuges based on energy requirements associated with water deliveries to these entities. Table V-3 summarizes total repayment responsibilities for plant-in-service costs in the Existing Allocation.

As described above and in Chapter III, with the exception of M&I and irrigation fixed obligation repayment contracts, the repayment responsibility of M&I water users and irrigation water users is collected by Reclamation in the water rates it charges its water contractors. The repayment responsibility of commercial power customers is collected by Western in the power rates it charges preference power customers. These repayment responsibilities represent costs

of facilities for water storage, water conveyance and pumping, power generation, and power transmission, and costs for other related system-wide facilities that are allocated to the water supply and power purposes. Water rates are based, in part, on the type of services utilized in storing and conveying water to each water user. For example, the rate for water that is stored in a CVP reservoir and then directly diverted by a water contractor from the stream below the reservoir would be lower than the rate for water that is stored in the same reservoir but also conveyed through a CVP canal and lifted for delivery to a water contractor by CVP pumping plants. The final step in the cost allocation process is the determination of costs associated with the water rate components that make up the repayment responsibility of M&I and irrigation water users.

TABLE V-3
REPAYMENT RESPONSIBILITIES IN
THE EXISTING ALLOCATION

REPAYMENT ENTITY	Cost (\$Million)
M&I Water Users	436.5
Irrigation Water Users	1,476.2
Commercial Power Customers	568.8
State of California and Local Governments	244.5
Federal Non-reimbursable	564.1
TOTAL	3,290.2
Notes: Results based on the 1999 CVP Interim Cost Allocation Annual Update. Costs for multi-purpose facilities allocated using factors derived from 1975 reallocation study. Totals may not be completely accurate due to rounding.	

Table V-4 shows total costs associated with the water rate components for M&I and irrigation water contractors for the Existing Allocation. The rate component "Other"

represents reimbursable costs of facilities considered environmental mitigation for the CVP as a whole rather than mitigation for a specific facility and is applied to all CVP M&I

Chapter V – Comparison of Alternatives

and Irrigation water contractors. As explained in Chapter III, if an environmental mitigation facility can be associated with a specific facility, such as the Coleman National Fish Hatchery mitigating for Shasta and Keswick Dams, its repayment obligation would be classified in the same rate component as the facility it is mitigating. For project-wide mitigation measures, such as the Trinity River Restoration Program, repayment obligations are classified as "Other" and included in all CVP water contractors' rates. The amounts shown as repayment contracts are fixed repayment obligations of M&I and irrigation water contractors for water distribution systems and do not enter into the determination of water rates.

PROPORTIONAL ALTERNATIVE

The Proportional Alternative differs from the Existing Allocation in the allocation of joint costs. In the Proportional Alternative, the allocation of the \$623 million of joint costs shown in Table V-1 is made in proportion to the

allocation of specific costs, which are the costs of single-purpose features. As described in Chapter IV, the derivation of joint cost allocation factors requires careful consideration of the nature of costs in the CVP cost allocation. Chapter IV describes approximately \$359 million in costs that are excluded from this calculation because they are non-reimbursable expenditures, many of which are not allocated to one of the seven authorized project purposes. In addition, a second group of costs are exempt from this process because they represent costs of facilities that do not affect water and power rates, or because they are associated with features that were allocated by the COE, or because their allocation has been fixed prior to the 1975 reallocation study. The San Felipe Division is included in this group because it is out-of-basin, does not contribute to the water- and power-generating capacity of the CVP, and its costs are the repayment responsibility of the two out-of-basin contractors in the San Felipe Division.

TABLE V-4
WATER RATE COMPONENTS IN THE EXISTING ALLOCATION

RATE COMPONENT	REPAYMENT RESPONSIBILITY OF M&I WATER USERS (\$Million)	REPAYMENT RESPONSIBILITY OF IRRIGATION WATER USERS (\$Million)
Storage	75.6	341.5
Conveyance	286.4	471.3
Conveyance Pumping	3.1	45.6
Direct Pumping	39.2	107.0
Other	8.3	40.4
Project Use Power	17.5	109.5
San Luis Drain	0.0	46.5
Subtotal Used in Setting Rates	430.2	1,161.8
Repayment Contracts for Distribution Systems	6.4	314.4
TOTAL	436.5	1,476.2
Notes:		
Results based on the 1999 CVP Interim Cost Allocation Annual Update.		
Totals may not be completely accurate due to rounding.		

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The removal of the above-described costs reduces the total of specific and joint costs to approximately \$1,808 million, of which about \$623 million is considered joint costs and \$1,185 million is considered specific costs. As explained in Chapter IV, the allocation of specific costs based on this distribution would result in no allocation to flood control because no single-purpose CVP facilities have ever been developed for flood control. To address this deficiency, a “specific” cost for flood control was estimated based on proportional flood control storage in reservoirs authorized and operated for flood control. This adjustment creates a specific cost of about \$24 million for

flood control and raises the total specific cost to \$1,209 million and decreases total joint costs to \$599 million. A summary of total specific costs and the calculated joint cost allocation factors for the Proportional Alternative is presented in Table V-5.

The joint cost allocation factors shown in Table V-5 are applied to the \$599 million of joint costs. Allocated joint costs are added to (a) the specific costs listed in Table V-5 and (b) the excluded and exempt costs to develop the allocation of total costs. Table V-6 summarizes total plant-in-service costs allocated to the authorized project purposes and other authorized costs in the Proportional Alternative.

TABLE V-5

**SPECIFIC COSTS AND JOINT COST ALLOCATION FACTORS IN THE
PROPORTIONAL ALTERNATIVE**

PROJECT PURPOSE	TOTAL SPECIFIC COST (\$MILLION)	JOINT ALLOCATION FACTOR IN PROPORTIONAL ALTERNATIVE
Water Supply	725.8	0.60036
Power	365.3	0.30215
Flood Control	24.0	0.01983
Fish and Wildlife	83.4	0.06902
Recreation	10.4	0.00864
Navigation	0.0	0.0
Water Quality	0.0	0.0
TOTAL	1,208.9	1.00000
Notes:		
Costs based on the 1999 CVP Interim Cost Allocation Annual Update.		
Totals may not be completely accurate due to rounding.		

TABLE V-6**ALLOCATION OF PROJECT COSTS IN THE
PROPORTIONAL ALTERNATIVE**

ITEM	Cost (\$Million)
Project Purpose	
Water Supply	1,888.5
Power	707.4
Fish and Wildlife	170.9
Recreation	69.4
Flood Control	95.7
Navigation	0.0
Water Quality Improvement	5.5
Subtotal	2,937.6
Other Authorized Costs	
Authorized deferred use	56.9
Archeological, cultural, historical	4.1
Highway improvement	14.7
Non-reimbursable IDC	27.0
Safety of dams	25.6
State Share of San Luis	224.1
Subtotal	352.6
TOTAL	3,290.2
Notes:	
Costs based on the 1999 CVP Interim Cost Allocation Annual Update.	
Totals may not be completely accurate due to rounding.	

The calculation of repayment responsibilities in the Proportional Alternative is based on the same process described for the Existing Allocation. The sub-allocation of water supply costs is based on the same water delivery assumptions as in the Existing Allocation, and the sub-allocation of power costs is based on the same power generation and use study results as

the Existing Allocation. Table V-7 summarizes total repayment responsibilities for plant-in-service costs in the Proportional Alternative, and Table V-8 shows the total costs associated with the water rate components for M&I and irrigation water contractors for the Proportional Alternative.

TABLE V-7

**REPAYMENT RESPONSIBILITIES IN THE
PROPORTIONAL ALTERNATIVE**

REPAYMENT ENTITY	Cost (\$Million)
M&I Water Users	435.5
Irrigation Water Users	1,503.8
Commercial Power Customers	581.1
State of California and Local Governments	245.1
Federal Non-reimbursable	524.7
TOTAL	3,290.2
Notes:	
Costs based on the 1999 CVP Interim Cost Allocation Annual Update.	
Totals may not be completely accurate due to rounding.	

TABLE V-8

WATER RATE COMPONENTS IN THE PROPORTIONAL ALTERNATIVE

RATE COMPONENT	REPAYMENT RESPONSIBILITY OF M&I WATER USERS (\$MILLION)	REPAYMENT RESPONSIBILITY OF IRRIGATION WATER USERS (\$MILLION)
Storage	71.4	383.8
Conveyance	286.4	445.6
Conveyance Pumping	3.1	45.6
Direct Pumping	39.2	107.0
Other	11.2	49.1
Project Use Power	17.8	111.9
San Luis Drain	0.0	46.5
Subtotal Used in Setting Rates	429.1	1,189.4
Repayment Contracts for Distribution Systems	6.4	314.4
TOTAL	435.5	1,503.8
Notes:		
Costs based on the 1999 CVP Interim Cost Allocation Annual Update.		
Totals may not be completely accurate due to rounding.		

CONTRACTORS' PROPOSAL

The Contractors' Proposal differs from the Existing Allocation in two ways. First, the factors used to allocate joint costs are based on results from the 1970 reallocation study rather than results from the 1975 reallocation study. Second, the sub-allocation of water supply costs assumes uses of CVPIA-dedicated water for environmental purposes to be additional end uses of CVP water and combines these amounts with historical and projected deliveries to M&I and irrigation contractors and wildlife refuges.

The primary differences between the 1975 and the 1970 joint cost allocation factors are evident in the power and flood control purposes. Changing from the 1975 to the 1970 factors would reduce the power joint cost allocation factor from nearly 22 percent to less than 6 percent and would increase the flood control joint cost allocation factor from about 20 percent to nearly 36 percent. A comparison of joint cost allocation factors for the 1970 and 1975 reallocation studies is provided in Table V-9. Total allocated costs for the Contractors' Proposal are summarized in Table V-10.

TABLE V-9
COMPARISON OF JOINT COST ALLOCATION FACTORS

PURPOSE	1970 ALLOCATION REVISED BY CONTRACTORS	1975 ALLOCATION
Water Supply	0.54344	0.55790
Power	0.05883	0.21810
Fish and Wildlife	0.02004	0.0
Flood Control	0.35520	0.20490
Navigation	0.02249	0.01910
Recreation	0.0	0.0
Water Quality	0.0	0.0
TOTAL	1.00000	1.00000
Note: Totals may not be completely accurate due to rounding.		

TABLE V-10**ALLOCATION OF PROJECT COSTS IN THE
CONTRACTORS' PROPOSAL**

ITEM	COST (\$MILLION)
Project Purpose	
Water Supply	1,787.8
Power	616.6
Fish and Wildlife	269.4
Recreation	69.1
Flood Control	182.5
Navigation	6.8
Water Quality Improvement	5.5
Subtotal	2,937.7
Other Authorized Costs	
Authorized deferred use	56.9
Archeological, cultural, historical	4.1
Highway improvement	14.7
Non-reimbursable IDC	27.2
Safety of dams	25.6
State Share of San Luis	224.1
Subtotal	352.6
TOTAL	3,290.2
Notes:	
Costs based on the 1999 CVP Interim Cost Allocation Annual Update.	
Costs for multi-purpose facilities allocated using factors derived from 1970 re-allocation study as revised by Contractors.	
Totals may not be completely accurate due to rounding.	

The calculation of repayment responsibilities in the Contractors' Proposal is based on the same process described for the existing allocation. The sub-allocation of water supply costs, however, is based on assumed end uses of CVPIA-dedicated water as well as historical and projected deliveries for M&I,

irrigation, and wildlife refuges. Table V-11 summarizes total repayment responsibilities for plant-in-service costs in the Contractors' Proposal, and Table V-12 shows the total costs associated with the water rate components for M&I and irrigation water contractors for the Contractors' Proposal.

TABLE V-11
REPAYMENT RESPONSIBILITIES IN THE
CONTRACTORS' PROPOSAL

REPAYMENT ENTITY	COST (\$MILLION)
M&I Water Users	434.6
Irrigation Water Users	1,443.4
Commercial Power Customers	533.0
State of California and Local Governments	244.3
Federal Non-reimbursable	634.9
TOTAL	3,290.2
Notes: Costs based on the 1999 CVP Interim Cost Allocation Annual Update. Costs for multi-purpose facilities allocated using factors derived from 1970 re-allocation study as revised by Contractors. Totals may not be completely accurate due to rounding.	

TABLE V-12**WATER RATE COMPONENTS IN THE
CONTRACTORS' PROPOSAL**

RATE COMPONENT	REPAYMENT RESPONSIBILITY OF M&I WATER USERS (\$MILLION)	REPAYMENT RESPONSIBILITY OF IRRIGATION WATER USERS (\$MILLION)
Storage	73.3	327.3
Conveyance	286.0	459.0
Conveyance Pumping	3.0	43.9
Direct Pumping	39.2	107.0
Other	10.3	44.8
Project Use Power	16.5	100.6
San Luis Drain	0.0	46.5
Subtotal Used in Setting Rates	428.3	1,129.0
Repayment Contracts for Distribution Systems	6.4	314.4
TOTAL	434.6	1,443.4
Notes: Costs based on the 1999 CVP Interim Cost Allocation Annual Update. Costs for multi-purpose facilities allocated using factors derived from 1970 re-allocation study as revised by Contractors. Totals may not be completely accurate due to rounding.		

Chapter V – Comparison of Alternatives**SUMMARY OF RESULTS**

Table V-13 provides a summary of total costs allocated to each project purpose for the Existing Allocation, Proportional Alternative,

and Contractors' Proposal. For the latter two alternatives differences from the Existing Allocation are also shown for ease of comparison.

TABLE V-13
SUMMARY OF TOTAL ALLOCATED COSTS FOR ALL
ALTERNATIVES
(\$ MILLION)

ITEM	EXISTING ALLOCATION	PROPORTIONAL ALTERNATIVE		CONTRACTORS' PROPOSAL	
	TOTAL COST	TOTAL COST	CHANGE FROM EXISTING	TOTAL COST	CHANGE FROM EXISTING
Project Purpose					
Water Supply	1,790.8	1,888.7	97.9	1,787.8	-3.0
Power	665.1	707.4	42.3	616.6	-48.6
Fish and Wildlife	263.4	170.9	-92.5	269.4	6.0
Recreation	69.1	69.4	0.3	69.1	0.0
Flood Control	138.0	95.8	-42.3	182.5	44.5
Navigation	5.8	0.0	-5.8	6.8	1.0
Water Quality Improvement	5.5	5.5	0.0	5.5	0.0
Subtotal	2,937.6	2,937.6	0.0	2,937.6	0.0
Other Authorized Costs					
Authorized deferred use	56.9	56.9	0.0	56.9	0.0
Archeological, cultural, historical	4.1	4.1	0.0	4.1	0.0
Highway improvement	14.7	14.7	0.0	14.7	0.0
Non-reimbursable IDC	27.2	27.2	0.0	27.2	0.0
Safety of dams	25.6	25.6	0.0	25.6	0.0
State Share of San Luis	224.1	224.1	0.0	224.1	0.0
Subtotal	352.6	352.6	0.0	352.6	0.0
TOTAL	3,290.2	3,290.2	0.0	3,290.2	0.0
Notes:					
Costs based on the 1999 CVP Interim Cost Allocation Annual Update.					
Totals may not be completely accurate due to rounding.					

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Table V-14 summarizes total repayment responsibilities for the three alternatives. This table shows that the repayment responsibility for M&I water users in the Proportional Alternative and Contractors' Proposal would change very little from that in the Existing Allocation. Compared to the Existing Allocation, the total irrigation repayment responsibility would increase in the Proportional Alternative and would decrease by a somewhat larger amount in the Contractors' Proposal. Similarly, total commercial power repayment responsibility increases in the Proportional Alternative and decreases by a larger amount in the Contractors' Proposal.

The total repayment obligations by the State and local governments in the Proportional Alternative and Contractors' Proposal would be nearly the same those as in the Existing Allocation. The changes in reimbursable repayment obligations for water and power users would be offset by changes in Federal non-reimbursable costs. In the Proportional Alternative, Federal non-reimbursable costs would decrease by somewhat more than \$39 million while in the Contractors' Proposal Federal non-reimbursable costs would increase by nearly \$71 million.

TABLE V-14
SUMMARY OF REPAYMENT RESPONSIBILITIES IN ALL
ALTERNATIVES
(\$ MILLION)

REPAYMENT ENTITY	EXISTING ALLOCATION	PROPORTIONAL ALTERNATIVE		CONTRACTORS' PROPOSAL	
	TOTAL COST	TOTAL COST	CHANGE FROM EXISTING	TOTAL COST	CHANGE FROM EXISTING
M&I Water Users	436.5	435.5	-1.0	434.6	-1.9
Irrigation Water Users	1,476.2	1,503.8	27.6	1,443.4	-32.8
Commercial Power Customers	568.8	581.1	12.3	533.0	-35.8
State of California and Local Governments	244.5	245.1	0.6	244.3	-0.2
Federal Non-reimbursable	564.1	524.7	-39.4	634.9	70.8
TOTAL	3,290.2	3,290.2	0.0	3,290.2	0.0
Notes:					
Costs based on the 1999 CVP Interim Cost Allocation Annual Update.					
Totals may not be completely accurate due to rounding.					

Chapter V – Comparison of Alternatives

The changes in water supply repayment responsibilities shown on Table V-14 are reflected in changes in costs associated with the M&I and irrigation rate components. As shown in Table V-15, costs for the M&I water rate components in both the Proportional and Contractors' Proposal are very similar to the Existing Allocation, with minor changes in the "Storage," "Other," and "Project Use Power"

components. Table V-16 shows that changes in costs for the irrigation water rate components in both the Proportional Alternative and Contractors' Proposal relate primarily to changes in the "Storage" and "Conveyance" components, with limited changes to the "Other" and "Project Use Power" components.

TABLE V-15
SUMMARY OF M&I RATE COMPONENTS IN ALL
ALTERNATIVES
(\$ MILLION)

RATE COMPONENT	EXISTING ALLOCATION	PROPORTIONAL ALTERNATIVE		CONTRACTORS' PROPOSAL	
	COST	TOTAL COST	CHANGE FROM EXISTING	TOTAL COST	CHANGE FROM EXISTING
Storage	75.6	71.4	-4.2	73.3	-2.3
Conveyance	286.4	286.4	0.0	286.0	-0.4
Conveyance Pumping	3.1	3.1	0.0	3.0	-0.1
Direct Pumping	39.2	39.2	0.0	39.2	0.0
Other	8.3	11.2	2.9	10.3	2.0
Project Use Power	17.5	17.8	0.3	16.5	-1.0
San Luis Drain	0.0	0.0	0.0	0.0	0.0
Subtotal Used in Setting Rates	430.2	429.1	-1.0	428.3	-1.9
Repayment Contracts for Distribution Systems	6.4	6.4	0.0	6.4	0.0
TOTAL	436.5	435.5	-1.0	434.6	-1.9
Notes:					
Costs based on the 1999 CVP Interim Cost Allocation Annual Update.					
Totals may not be completely accurate due to rounding.					

TABLE V-16

**SUMMARY OF IRRIGATION RATE COMPONENTS IN ALL
ALTERNATIVES
(\$ MILLION)**

RATE COMPONENT	EXISTING ALLOCATION	PROPORTIONAL ALTERNATIVE		CONTRACTORS' PROPOSAL	
	COST	TOTAL COST	CHANGE FROM EXISTING	TOTAL COST	CHANGE FROM EXISTING
Storage	341.5	383.8	42.3	327.3	-14.2
Conveyance	471.3	445.6	-25.7	459.0	-12.4
Conveyance Pumping	45.6	45.6	0.0	43.9	-1.7
Direct Pumping	107.0	107.0	0.0	107.0	0.0
Other	40.4	49.1	8.6	44.8	4.4
Project Use Power	109.5	111.9	2.4	100.6	-9.0
San Luis Drain	46.5	46.5	0.0	46.5	0.0
Subtotal Used in Setting Rates	1,161.8	1,189.4	27.6	1,129.0	-32.8
Repayment Contracts for Distribution Systems	314.4	314.4	0.0	314.4	0.0
TOTAL	1,476.2	1,503.8	27.6	1,443.4	-32.8
Notes:					
Costs based on the 1999 CVP Interim Cost Allocation Annual Update.					
Totals may not be completely accurate due to rounding.					

Consistent with the relatively small changes in the M&I water users repayment responsibility shown in Table V-14, it can be seen from Table V-15 that the changes in costs associated with the M&I water rate components are relatively minor. From Table V-16, it can be seen that costs associated with the irrigation water rate components either do not change or increase for the Proportional Alternative, with one exception, and either do not change or decrease for the Contractors' Proposal, again with one exception. The entire reduction of almost \$26 million in the "Conveyance" component of the Proportional Alternative results from the change in the

allocation factors for the Tehama-Colusa Canal, with a cost of \$81 million, and Tehama-Colusa Canal Fish Facilities, with a cost \$43 million. Both facilities are classified as "Conveyance" for ratesetting purposes. In the Existing Allocation, the costs of these facilities are allocated using separable cost factors from the 1975 reallocation, and therefore these costs are considered joint costs in the Proportional Alternative. In the Existing Allocation, some 93 percent of the cost of the canal and 13 percent of the cost of the fish facilities are the repayment responsibility of irrigation. In the Proportional Alternative, on the other hand, only about 42

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percent of the cost of the canal and 48 percent of the cost of the fish facilities are the repayment responsibility of irrigation. The net effect of these two changes is a reduction in the irrigation repayment responsibility of nearly \$26 million.

The “Other” component for both M&I and irrigation in the Contractors’ Proposal increases

because the environmental water account includes an element that would be considered mitigation. It would be entirely reimbursable and appears in this table for ratesetting purposes in the “Other” component.

Chapter VI

EVALUATION OF ALTERNATIVES

As previously discussed in Chapter II, the issue of CVP cost allocation was the subject of a special study completed in the 1940s while the first stages of the project were still under construction. In that study, which was never officially sanctioned, a combination of methods was used to allocate CVP costs. In completing the first official allocation of CVP costs in 1946, Reclamation also faced the issue of selecting a cost allocation method from among competing methods and utilized two different approaches – AJE and use of facilities – and averaged the results.

According to Document No. 146, 80th Congress, 1st Session, in which the 1946 allocation performed by Reclamation was published, the AJE and use of facilities were the two methods for which a reasonable claim to validity existed in application to the costs of the CVP. That the two methods produced results with few differences was accepted as proof of the approximate validity of each. Since it was thought that there was no sure way to choose between them, the final result was an average of the two.

As noted in Chapter II, the issue of the appropriate allocation method for use in Federal water resource projects was the subject of several investigations in the early 1950s, and in 1954, the COE, the Federal Power Commission, and the Department of the Interior announced that they would all consistently employ the same approach for cost allocations. The SCRB was considered preferable, but the AJE and use of facilities methods would also be permitted under special circumstances. Beginning with the first reallocation of CVP costs in 1956 and extending through the most recent reallocation study in 1975, Reclamation has followed this policy and used the SCRB method.

As a result, the allocation method applied to the CVP has become accepted as well as the water rates that stem from it. Although the various reallocation studies since that time utilized new data on benefits and costs and new facilities were included as construction was completed, the allocation method itself was never re-examined. In this cost allocation study, however, the appropriateness of the existing cost allocation has been raised as an issue. As described in Chapter IV, it is being addressed through the development of two new alternative allocation methods and the selection of one of them or the existing method as the recommended alternative.

In the sections that follow, criteria by which to evaluate alternative allocation methods are developed and applied to the alternatives. A recommended alternative is selected.

EVALUATION CRITERIA

During this study Reclamation has consulted several sources for guidance on criteria to be used to evaluate the cost allocation alternatives. Discussions with staff in other Reclamation regions, publicly owned utilities, and water districts confirmed that a cost allocation method is typically selected and usually applied during the planning phase of a project. For Reclamation the SCRB continues to be the preferred method for any new projects and the Commissioner's office approval must be obtained to use an alternative method. Major changes in cost allocation methodology are generally not contemplated following completion and long-term operation of major project features. As a result of the early cost allocations made for the CVP, different user groups were assigned a share of project costs. Long-term water and power contracts, and water

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user expectations, are generally based on the original allocation of costs and on that same method being used to allocate additional costs. As additional costs are incurred by a project, such as major repairs or rehabilitation of existing facilities or additional facilities, there is likely an expectation and understanding that such additional costs will be treated in a similar manner unless otherwise specified in legislation. Usually, these periodic updates of the cost reallocation apply techniques similar to those used in previous cost allocations of the same project, and the issue of alternative methods is not raised. Thus, little if any, previous experience in developing evaluation criteria for the reallocation of major water projects is available for consideration.

The circumstances involved in this cost allocation study also differ from those typically encountered in cost allocation studies, which are conducted during project planning and development. At the start of project planning, no allocation exists, and the problem is that of developing one, including choice of the appropriate allocation method. For this study, an allocation does exist so that the relevant question is whether one or both of the alternative allocation methods presented in Chapter IV have characteristics that provide a compelling reason to change the existing method. The evaluation criteria applied in this study were formulated to address that question, and if the answer were affirmative for both alternatives, to provide guidance in the selection of one of them as the recommended method. The criteria were applied to determine whether the alternatives met the basic requirements for an interim cost allocation and to highlight differences between the existing allocation method and the alternatives. A summary of evaluation criteria is provided in Table VI-1.

APPLICATION OF EVALUATION CRITERIA TO ALTERNATIVES

The criteria described in Table VI-1 form the basis to evaluate the advantages and disadvantages of the existing allocation and the two alternatives considered in this study. The following sections describe the application of

the evaluation criteria to the alternatives and their ability to meet the criteria. For each criterion, alternatives are assigned an evaluation rating of “meets,” “does not meet,” or “partially meets” depending on the degree to which the criterion is met by the alternative.

Criterion 1 – Allocate Joint Costs Based on Project Benefits

A benefits-based allocation method links the allocation of costs and repayment responsibility of an entity to the level of accomplishments or services received by that entity. This approach is consistent with guidance applicable to Federal water projects across agencies, as referenced earlier.

As described Chapter III, the Existing Allocation uses joint cost allocation factors that were developed using the SCRB method in 1975. The 1975 reallocation study was prepared as a “short form” allocation that was based on the major 1970 reallocation, and the joint cost allocation factors from the 1975 study have been in use for nearly 25 years. These factors were established based on consideration of project benefits and costs for single purpose alternatives. Therefore, the Existing Allocation is assigned an evaluation of “meets” this criterion.

The Proportional Alternative allocates joint costs in proportion to the allocation of specific costs among project purposes, not on the basis of project benefits. Therefore, it is assigned an evaluation of “does not meet” this criterion.

The Contractors’ Proposal recommends use of the joint cost factors from the 1970 reallocation study rather than those from the 1975 study, which are used in the Existing Allocation. Issues raised by the Contractors’ Proposal concerning the use of the 1975 factors focus on the formulation of the single-purpose power alternative and the treatment of flood control benefits.

TABLE VI-1
CRITERIA TO EVALUATE
COST ALLOCATION ALTERNATIVES

CRITERION	DISCUSSION
1. Allocate joint costs based on project benefits.	The allocation of joint costs for multi-purpose projects should be based on a methodology that quantifies benefits for each purpose. This approach is consistent with guidance applicable to Federal water projects across agencies – guidance that identified the SCRB as the preferred method for the allocation of joint costs. Alternatives that allocate joint costs based on benefits would be ranked higher than alternatives that do not allocate joint costs based on benefits.
2. Adjust repayment in response to changes in project operations.	This criterion evaluates the ability of an alternative to reflect changes in repayment in response to changes in project operations. Alternatives that adjust repayment in response to changes in water system operations would be ranked higher than alternatives that do not.
3. Apply accepted cost allocation standards.	The selected cost allocation alternative should utilize accepted cost allocation standards. Alternatives that apply accepted cost allocation standards would be ranked higher than alternatives that do not.
4. Consistency with past methods to allocate CVP costs and potential suitability for use in the final allocation.	This criterion is intended to identify potential effects of adopting an interim allocation that would cause abrupt changes in repayment responsibility that may be reversed at some future time. This criterion also considers the potential application of a method for the final cost allocation. Methods that are more consistent with past allocations or less likely to cause abrupt changes would be ranked higher than those that do not.
5. Consistency with applicable laws, regulations, and Reclamation cost allocation guidance.	The selected method should comply with all governing laws and regulations regarding cost allocation for Reclamation projects in general and for the CVP in particular. Alternatives that comply with laws and regulations, and are consistent with Reclamation cost allocation guidance will be ranked higher than alternatives that do not.
6. Adaptive and able to accept new project features.	<p>The CVP has not yet been deemed complete and additional project features are likely. As new project features are added, their costs must be allocated among project purposes.</p> <p>This criterion evaluates the effects that the costs of new project facilities would have upon the allocation of existing facilities. Alternatives that allow the addition of facilities that have new costs that are specific to only a single feature or features without leading to the reallocation of existing joint costs would be ranked higher.</p>
7. Simplify the cost allocation process and allocation of joint costs.	This study is being undertaken, in part, in response to a GAO recommendation that the cost allocation process be simplified and streamlined. This criterion assesses whether an alternative would result in more streamlined updates than the allocation process in place at the time of the GAO review.
8. Implementation process	The selected alternative will be forwarded to the GAO. Some alternatives may require Congressional approval before implementation. This criterion describes the approval process that would be required for each alternative and is provided for information purposes. Since the implementation process is determined by existing laws and policies, no weight is assigned to this criterion.

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In the 1970 study, a fossil fuel powerplant was used as the single-purpose alternative while the 1975 study used a nuclear plant. In both studies the Federal Power Commission provided energy and capacity values. The Contractors' Proposal notes that Reclamation's choice of nuclear power as the single-purpose alternative, in part, led to these changes in the values of the joint cost factors, particularly those for power and flood control. The single-purpose alternative should represent the most likely alternative that would have been constructed in the absence of a Federal hydropower project, and at the time the 1975 study was prepared, nuclear power was viewed as a viable power source. The Contractors' Proposal recognizes this situation. However, the proposal goes on to point out that events in the power field did not develop as assumed in the allocation study. Nevertheless, at the time of the study, nuclear power was considered viable. All energy costs were increasing in the early 1970s, including those of fossil fuels, so that it was to be expected that the cost of the single-purpose power alternative in the 1975 reallocation would be considerably greater than that used in the 1970 reallocation. This would serve to increase the joint cost allocation for power regardless of the nature of the single-purpose alternative used in the 1975 reallocation study. As described in Chapter IV, the justifiable expenditure for power more than doubled from the 1970 to 1975 study while the separable cost increased about two-thirds. The result was a significant increase in the remaining justifiable expenditure for power with a slight decline in the justifiable expenditure for flood control. Accordingly, the joint cost allocation for power increased and that for flood control fell somewhat while the joint factors for other project purposes experienced relatively minor changes.

Only a complete, new reallocation study that estimated project benefits, costs of facilities in service, and single-purpose alternatives could produce joint cost factors that would represent current conditions. And, even if one were performed, it would still leave questions as to how to integrate the results with past uses of project facilities and historic allocations used for repayment to date.

The Contractors' Proposal also notes that in the 1975 reallocation study, benefits and costs were brought to a common date of 1975, with the exception of flood control benefits. Flood control benefits were neither re-evaluated nor indexed to the 1975 price level. This is one reason why the joint cost allocation factor for flood control fell from 1970 to 1975 and, the Contractors' Proposal contends, therefore becomes a reason for advocating a return to the use of the 1970 joint cost allocation factors. However, historical communication from the COE indicates why a higher value was not used and was likely not justified. As a part of the 1975 reallocation study, Reclamation requested updated flood control benefits from the COE. The COE responded to Reclamation by letter of February 27, 1975, (included as Appendix C). In its letter the COE stated that it appeared that the effect of new hydrology developed since the previous flood control study, price level increases, and increased economic development would increase previously computed flood control benefits. However, in the same letter, the COE also stated that the guideline framework for COE flood control benefit studies had undergone extensive changes and that the effect of the changes would be to appreciably decrease (emphasis added) the benefits. The COE further stated that it had concluded that the net effect of the changes taken together would mean that "current flood control benefits would be at least equal to those previously supplied you in April 1969, but might not significantly exceed them." The COE letter recommended that Reclamation use the flood control monetary benefit values supplied by the COE for its 1970 reallocation study without any indexing. Reclamation did as the COE recommended, accepting the balancing of the two offsetting factors, and so flood control benefits were neither re-evaluated nor indexed.

In Chapter IV, it was noted that the Contractors' Proposal adopted Reclamation's approach to the allocation of Friant Dam and Reservoir used in its 1975 reallocation study by allocating Friant's costs only to water supply and flood control with no allocation to power since Friant has no power-generating facilities. It should also be noted that in all three allocation

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alternatives under consideration some of the costs of the Trinity River Division are allocated to flood control, but Public Law 84-386, dated August 12, 1955, which authorized the division, did not include flood control as one of its authorized purposes. The appropriateness of such an allocation would have to be re-examined in any completely new reallocation study of the CVP.

The Contractors' Proposal includes the use of allocation factors that were developed in a SCRB analysis and is therefore assigned an evaluation of "meets" this criterion. As described in Chapter IV, joint cost allocation factors developed in a SCRB analysis reflect the distribution of justifiable expenditures to project purposes in proportion to the remaining justifiable expenditure after separable costs calculated for each purpose have been removed. It should be noted that the Contractors' Proposal uses less recent estimates (1970) than the Existing Allocation (1975), but it was still assigned an evaluation rating of "meets" this criterion.

Criterion 2 – Adjust Repayment in Response to Changes in Project Operations

This criterion evaluates the ability of an alternative to reflect changes in cost allocation and repayment in response to changes in project operations. All three alternatives distribute costs allocated to water supply and power to irrigation, M&I, and commercial power for the repayment of reimbursable costs. For water supply, repayment responsibilities are based on total historic and projected deliveries throughout the lifetime of the CVP until the end of the repayment period, thereby allowing long-term trends to be recognized without imposing abrupt short-term changes in water and power rates. All three alternatives use the same factors to determine the repayment responsibilities for the power purpose, but differences appear in determining repayment responsibilities for the water supply purpose between the Existing Allocation and the Contractors' Proposal.

The Existing Allocation and Proportional Alternative determine repayment responsibilities

for the water supply purpose in the same way. They distribute the responsibility for water supply costs in proportion to total water deliveries to the three end uses. The end uses of water supply are irrigation, M&I, and wildlife refuges, and water deliveries are composed of both measured, historic use and estimated future deliveries. Typically, future deliveries are assumed to be either total contract amount or are gradually increased to the total contract amount as demand is anticipated to rise.

The Contractors' Proposal uses the same water deliveries for the three end uses that appear in the Existing Allocation, but adds a fourth category – the environment. As described in Chapter IV, the contractors justify adding the environment as a water use in this alternative to reflect changes in project operations as a result of the CVPIA, ESA, and Bay-Delta Plan. The Contractors' Proposal would establish the environment as an additional water use based on the quantity of water dedicated annually by the CVPIA to restore fish, wildlife, and habitat. The environment would begin as a water use in 1993, and ultimately the assumed use of water for environmental purposes would build up to 800,000 acre-feet per year. For 1999, the addition of this water would raise the total amount of water used to distribute water supply costs from about 260 million acre-feet over the entire repayment period – the value used in the Existing Allocation and Proportional Alternative – to about 282 million acre-feet over the same period in the Contractors' Proposal. The effect of including this water account is to assign a share of water supply costs to the environment.

In the Contractors' Proposal, water supply costs assigned to the environment would be partially reimbursable and partially non-reimbursable. From 1993 through 2006 – the period in the Contractors' Proposal when Stage I of the CalFed environmental restoration actions are planned to be completed – environmental water is considered mitigation, and all of the costs associated with this water supply would be allocated to water and power users and would be totally reimbursable by them. This proposal adopts a gradual buildup in what is labeled environmental water. This assumed schedule is

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important because the proposal makes a portion of its cost non-reimbursable starting in 2007, as described below.

As described in Chapter IV and illustrated in Figure IV-1, beginning in 2007 and continuing through 2030, the costs associated with the environmental water account would be partially reimbursable and partially non-reimbursable, using a proposed formula. The formula specified by the Contractors' Proposal is adapted from the repayment requirements for certain other actions required of the CVP – namely, the several actions mandated in section 3406(b) of the CVPIA. Specifically, 37.5 percent of the water would be reimbursable, to be repaid by water and power users, and the remaining 62.5 percent of the water would be non-reimbursable from the perspective of water and power users.

The contractors' rationale for this is that the reimbursable portion (37.5 percent) would be considered mitigation with related costs to be repaid by water and power users while the remaining 62.5 percent of the water would be considered enhancement with related costs to be non-reimbursable from the perspective of water and power users. By the end of the CVP repayment period in 2030, when the environmental water account would have increased to 800,000 acre-feet per year on a schedule provided in the Contractors' Proposal, the costs associated with 300,000 acre-feet, representing 37.5 percent of the 800,000 acre-feet, would be repaid by water and power users and the costs associated with the remaining 62.5 percent would be non-reimbursable.

There are several reasons to reject this line of reasoning. First, section 3406(b)(2) of the CVPIA does not state that any of the dedicated 800,000 acre-feet of water is for enhancement. As noted in Chapter II, the dedicated water is primarily for habitat "restoration" purposes – a term that suggests mitigation, not enhancement. In addition, section 3406(b)(3) of the CVPIA requires implementation of a program to supplement the quantity of water dedicated in section 3406(b)(2). This indicates that the CVPIA did not contemplate that the dedicated water would meet all the environmental goals

enumerated in section 3406(b)(2). Mitigation, protection, and restoration must precede enhancement, and it is unlikely that the 800,000 acre-feet alone could completely mitigate, protect, and restore, and therefore that any portion of it could be considered enhancement. Additionally, the CVPIA does not specify that the cost allocation of the CVP should be modified to accommodate the 800,000 acre-feet dedicated annually by section 3406(b)(2), that a cost should be assigned to this water, nor that some portion of such cost should be non-reimbursable. Rather, the CVPIA treats this water as a required priority use of project water and implicitly an obligation of the water contractors.

It could also be noted that the provisions of the CVPIA from which the repayment formula in the Contractors' Proposal is borrowed do not state that 62.5 percent of the benefits of each measure is considered environmental enhancement and that 37.5 percent is mitigation. And, even if the repayment formula from those sections of the CVPIA were applied, it would require the State to 37.5 percent of the costs, which is not a part of the Contractors' Proposal.

Next, the assumption in the Contractors' Proposal that enhancement would begin in 2007 because the restoration/mitigation actions under Stage 1 of the CalFed program would be complete is not supportable. CalFed actions do not equate to CVPIA actions, and it cannot be assumed that actions taken by CalFed would fully satisfy CVP-specific mitigation, protection, and restoration needs articulated in the CVPIA. Furthermore, CalFed in its Programmatic Record of Decision, dated August 2000, makes no claims that its Stage I actions would, or are intended to, provide complete mitigation or that subsequent environmental actions would constitute enhancement. Finally, Stage I restoration/mitigation actions may not be completed by 2006.

Third, while the distribution of water supply costs in the Existing Allocation and the two alternatives allows changes in project uses to be reflected in the cost allocation, the Contractors' Proposal's treatment of the environment as a

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new water use is not justified for other reasons. The three water supply functions in the Existing Allocation are all end uses – M&I users, irrigators, and wildlife refuges. The “environment,” on the other hand, as used in the Contractors’ Proposal, is not an end use in the same sense that M&I, irrigation, and wildlife refuges are end uses. Environmental water released from CVP reservoirs for instream environmental benefits could also be used for other beneficial purposes, including irrigation or M&I uses, farther downstream. In such cases, the Contractors’ Proposal would double count the use of water.

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

Authorizations of components of the CVP and reauthorizations of the entire CVP have also addressed consideration of fish and wildlife and their habitats. Public Law 83-674, dated August

27, 1954, reauthorized the CVP to include the use of CVP water for fish and wildlife purposes, subject to priorities contained in previous authorizations, via development and maintenance of waterfowl management areas. The Trinity River Division authorizing legislation required adoption of appropriate measures to insure the preservation and propagation of fish and wildlife. Public Law 87-874, dated October 23, 1962, reauthorizing the New Melones Project, also required the adoption of appropriate measures to insure the preservation and propagation of fish and wildlife. The authorization of the San Felipe Division by Public Law 90-972, dated August 27, 1967, included the conservation and development of fish and wildlife resources in accordance with the Federal Water Project Recreation Act.

In summary, the Coordination Act required provision for fish and wildlife resources in connection with the development and operation of water projects such as the CVP as far back as 1934. Various CVP authorizations and reauthorizations have expressed the intention to promote the preservation, propagation, and development of fish and wildlife resources. Major fish and wildlife mitigation measures implemented in the CVP prior to enactment of the CVPIA include the Coleman National Fish Hatchery, minimum flow specifications for the Trinity River, Clear Creek, and lower American River, prescribed operation of the gates at the Red Bluff Diversion Dam, fish spawning channels within and adjacent to the Tehama-Colusa Canal, and a fish salvage facility at the Tracy Pumping Plant.

In addition to Federal law, Reclamation operates the CVP in accordance with State law. However, for a considerable period of time there was a disagreement concerning exactly how this responsibility was to function. It was the Federal position that Reclamation projects were operated pursuant to Federal law and that it was a matter of comity that Reclamation had applied for water rights from the State. Reclamation also held that it operated the CVP to meet water quality standards that were implicit in the objectives of the project pursuant to Federal law

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and that State water law had no authority over a Federal project. In *U.S. vs. California*, the U.S. Supreme Court in 1978 held that Reclamation projects are subject to State water law absent a clear Congressional directive to operate otherwise. Section 3406(b) of the CVPIA reinforced this by requiring the Secretary to operate the CVP to meet all obligations under State and Federal law and all decisions of the SWRCB establishing conditions on applicable licenses and permits of the project. Section 3406(a)(4) of the act amended the 1937 CVP authorization by adding the following language, “Nothing in this title shall affect the State’s authority to condition water rights permits for the Central Valley Project.” Decisions of the SWRCB have made it clear that all CVP water rights are junior to inbasin needs, including needs within the Delta itself, and that the CVP can only export water from the Delta that is surplus to inbasin needs. Over time, the levels of Delta outflow considered necessary to protect fisheries and the environment have increased and higher instream flow regimes have been adopted or agreed to by Reclamation, imposed by the SWRCB, or required via species listings under the ESA. These actions have influenced not only CVP operations in the Delta, but also the nature of CVP water rights, obligations of CVP contractors, and obligations of other water users.

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

In summary, all three alternatives utilize a similar approach to adjust the repayment of water and power costs as water and power uses change. The Existing Allocation and the Proportional Alternative are based on measurable water deliveries to end uses and are assigned an evaluation of “meets” this criterion. By contrast, the Contractors’ Proposal’s inclusion of the environment as an additional water use – the 800,000 acre-feet of water dedicated by section 3406(b)(2) – introduces a very questionable element to the allocation computations from several perspectives,

including long-standing historical mandates in Federal legislation and State water rights rulings. Therefore, the Contractors’ Proposal is assigned an evaluation of “partially meets” this criterion.

Criterion 3 – Apply Accepted Cost Allocation Standards

The Existing Allocation uses joint cost factors based on the SCRB method, which is the established and accepted cost allocation approach for Federal multi-purpose water projects. Therefore the Existing Allocation is assigned an evaluation of “meets” this criterion. The Proportional Alternative allocates joint costs in proportion to specific costs. This approach has not been applied to multi-purpose water projects for the reasons described below.

In the Proportional Alternative, joint costs are allocated in proportion to the costs of single-purpose facilities in the constructed project, i.e., the specific costs – a method very similar to cost accounting methods used by private business. A key disadvantage to this alternative is that no single-purpose facilities have been constructed for three of the authorized purposes of the CVP – flood control, navigation, and water quality. Therefore, if followed to the letter, this method would allocate no costs to flood control, navigation, or water quality. To partially address this deficiency in the Proportional Alternative, for the purpose of evaluation in this study, an estimate of “specific” costs for flood control was made based on the proportion of total reservoir storage authorized for flood control as described in Chapter IV. No attempt was made to identify specific costs for navigation or water quality. Even with this assumption, however, the Proportional Alternative results in a lower allocation to flood control than either the 1970 or 1975 cost allocations that were based on the SCRB method.

The Proportional Alternative is not well suited to accept future additions of single-purpose project features. Under this alternative, future additions of single-purpose facilities, the costs of which are specific costs, would affect the allocation of joint costs of existing facilities.

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This would occur even if the new facility resulted in no change in those project benefits, which stemmed from the joint facilities. Further discussion of these effects is found under Criterion 6 below. Because the Proportional Alternative would radically change the methodology to allocate joint costs, it “does not meet” this criterion.

The Contractors’ Proposal uses accepted SCRB-derived joint cost allocation factors, but introduces the environment as a water user to provide a surrogate estimate of benefits. As discussed under Criterion 2, the environment, apart from water delivered to wildlife refuges, is not an end use of the 800,000 acre-feet of water used in this alternative, and “environmental protection” is not a new use of project water. As also noted under Criterion 2, the Contractors’ Proposal could result in double counting of water in those cases where some of the water satisfying environmental purposes is used further downstream for M&I and irrigation.

This establishment of the environment as a water user to allocate project costs is not based on standard practices. Therefore, the Contractors’ Proposal “partially meets” for this criterion.

Criterion 4 – Consistency with Past CVP Cost Allocation Methods

The selection of an allocation method should consider consistency with past methods used to allocate CVP costs and the potential to cause abrupt changes in annual repayment responsibilities over the remainder of the repayment period. As described in Chapter II, the CVP has been in operation for over 50 years. During this time, water and power users have made numerous financial and management decisions based on actual and anticipated costs. An abrupt change in repayment requirements, resulting from a significant change in the cost allocation method, could create unintended consequences, such as dramatically changing water and power rates. The adoption of an allocation method that causes these consequences, particularly one that may have to be modified at some future time if the changes to

the cost allocation method were reversed, is not preferred. Continuation of the Existing Allocation clearly would not cause abrupt changes in repayment responsibilities and would allow future changes to be made without having to reverse a change implemented at this time. Therefore, the Existing Allocation “meets” this criterion.

As described under Criterion 3, the Proportional Alternative introduces a radically different approach to the allocation of joint costs from that based on a SCRB allocation. In this alternative, joint costs would be allocated in proportion to the costs of single-purpose facilities in a manner similar to cost accounting methods used by private business. Because the Proportional Alternative would radically change the methodology to allocate joint costs, and would subject allocation of existing joint costs to changes in future specific costs it “does not meet” this criterion.

The Contractors’ Proposal would provide some consistency with past practices but also introduce two changes. First, the adoption of joint cost allocation factors from the 1970 allocation would significantly lower the repayment obligation for commercial power and increase the allocation of costs to flood control, which is non-reimbursable. As stated in the discussion under Criterion 1, there were good reasons for not making these changes. It is not known if the flood control and power benefits from 1970 are more accurate today or over the years between 1975 and today than the benefits developed for these purposes in 1975. An updated estimate of project benefits for all project purposes would be required to make such a determination and even after such a determination were made, it would still leave questions as to how to integrate the results with past flood control and power benefits, past allocations, and past repayments.

The second area of concern regarding the Contractors’ Proposal is the addition of the environment as a water use in the determination of repayment obligations for costs allocated to water supply. As described under Criterion 2, the Contractors’ Proposal would establish up to

800,000 acre-feet per year for environmental uses and defines the percentages of that water that are considered reimbursable (37.5 percent) and non-reimbursable (62.5 percent), percentages not applied by the CVPIA to this dedication of water. The annual quantities for irrigation, M&I and wildlife refuges are based on historic and projected deliveries. Each year water deliveries for those purposes are updated to reflect the conversion of one year of projected to historic deliveries and incorporate any changes in projected deliveries. The Contractors' Proposal, however, fixes the percentages applied to the environmental water to determine reimbursability while the quantities and reimbursability of the other water can change from year to year. Furthermore, the proposal assumes the Stage I CalFed mitigation actions would be completed by 2006, but does not address how the repayment of costs for environmental water would be adjusted if mitigation were not complete by then. Thus, it is likely that additional unknown, and possibly unanticipated, changes to this approach would be necessary in the future, creating potential instability in the application of this method.

As shown in Chapter V, the Contractors' Proposal would result in a reduction in water and commercial power repayment obligations. Because both of the key elements of the proposal – adoption of 1970 joint cost allocation factors and introduction of an environmental water account – are subject to future review, modification, and even potential reversal, it is possible that an abrupt increase in future water and commercial power repayment obligations and repayment rates could occur with the adoption of this alternative. Nevertheless, because the Contractors' Proposal utilizes the SCRB method, it “partially meets” this criterion.

Criterion 5 – Consistency with Laws, Regulations, and Guidance

As described in Chapter II, the initial phase of this study included a thorough review of the Existing Allocation to assure compliance with all laws, regulations, and guidance. Allocation spreadsheets were modified to reflect these corrections, which have been applied to the 1999

updated allocation. The revised spreadsheets were also used in this study to evaluate the Existing Allocation, the Proportional Alternative, and the Contractors' Proposal. The Existing Allocation “meets” this criterion. The Proportional Alternative and Contractors' Proposal, however, present some conflicts with existing laws, regulations, and guidance.

For projects with multi-purpose features such as the CVP, the SCRB method is the established and accepted method although other methods, such as AJE, can be used under special circumstances. In an attempt to streamline the cost allocation process, the Proportional Alternative abandons a benefits-based allocation method in favor of a method that relies on more easily determined cost factors alone.

The use of the specific costs of single-purpose facilities in the Proportional Alternative to develop factors to be used to allocate joint costs is not consistent with Reclamation cost allocation policy and guidance, as referenced above. As discussed under Criterion 3, this method introduces a radically different approach to the allocation of joint costs from that used in the SCRB. Even with assumed flood control benefits based on dedicated reservoir space, the Proportional Alternative results in a lower allocation to flood control than either the 1970 or 1975 cost allocations that were based on the SCRB method.

The creation of the environment as a water use in the Contractors' Proposal departs from Reclamation cost allocation policy and guidance. As described in Chapter II, the 1970 CVP reallocation study adopted an allocation to water supply with repayment obligation distributions to water use functions based on proportionate historic and projected water deliveries to each function. This approach, which was re-affirmed in the 1975 allocation, was adopted so that adjustments for future changes in project operations could be more readily accommodated. The amount of water assigned to the environment in the Contractors' Proposal is not based on delivered water or on otherwise measured water quantities. Rather, this method adds a somewhat arbitrary amount

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to historic and projected water deliveries for the irrigation, M&I and wildlife refuge water use functions. This approach is not consistent with existing Reclamation cost allocation guidance; may result in double counting, as described under Criterion 2; and conflicts with applicable law, as described under Criterion 2 and discussed in more detail below.

The Contractors' Proposal creates an environmental water account based on assumptions concerning or interpretation of the 800,000 acre-foot quantity of water in section 3406(b)(2) of the CVPIA. In the Contractors' Proposal, this quantity starts at 531,000 acre-feet in 1993 and is increased to 800,000 acre-feet annually in the year 2030. In the proposal, the costs of 100 percent of this amount of water is treated as reimbursable between the present and 2006, on the rationale that this water is used entirely for mitigation until that time. Starting in 2007, the proposal designates 62.5 percent of this water as non-reimbursable and 37.5 percent as reimbursable, and, in effect, treats 62.5 percent of the water as being for environmental enhancement and 37.5 percent for mitigation. As described under Criterion 2, the CVPIA does not specify that the cost allocation for the CVP should be modified to reflect the dedication of the 800,000 acre-feet of water, that a cost should be assigned to this water, nor that some portion of any such cost should be considered non-reimbursable. Rather, the CVPIA treats this water as a required priority use of project water and implicitly an obligation of the water contractors. This is similar to the way in which the CVPIA treats the costs of purchasing additional water to help meet the same environmental objectives. Surcharges of \$6 and \$12 per acre-foot (indexed each year) are to be paid by water contractors, and preference power customers are also levied a surcharge in their power rates. The fact that additional water is to be purchased also means that the 800,000 acre-feet of water is not sufficient to satisfy all of the mitigation, protection, and restoration requirements of the act by the year 2007.

It is also noteworthy that, although the CVPIA is specific on allocations for costs in other sections, it makes no mention of cost

allocation or reallocation under section 3406(b)(2). Nevertheless, the contractors' interpretation of this section is that Reclamation should make an allocation of costs to this water and that some of the costs should be non-reimbursable, according to the following formula.

As discussed under Criterion 2, the Contractors' Proposal assumes that the repayment formula of 37.5 percent reimbursable and 62.5 percent non-reimbursable that appears in many of the actions required by sections 3406(b)(4)-(22) of the CVPIA should be applied to the 800,000 acre-feet of water. Reclamation has concluded that if Congress had intended that a cost be assigned to the 800,000 acre-feet of water and that a portion of that cost be non-reimbursable, then specific language to that effect would have been provided in the legislation.

Section 3406(b)(1) of the CVPIA states, "... That the programs and activities authorized by this section shall, when fully implemented, be deemed to meet the mitigation, protection, restoration, and enhancement purposes established under Section 3406(a) of this title." Many of the provisions included in the referenced section (3406) include specific repayment formulae. Since no such cost assignment or reimbursement formula was provided for the 800,000 acre-feet in section 3406(b)(2), its use is considered mitigation and any costs attributable to it are considered reimbursable in total. The creation of the environment as a water use therefore introduces into the cost allocation an element that is insupportable either in existing Reclamation cost allocation procedures or law.

In summary, although the Proportional Alternative complies with laws and regulations, it uses an allocation method that is not consistent with Reclamation cost allocation guidance. Therefore, the Proportional Alternative "partially meets" this criterion. In light of the above-described inconsistencies with historic and recent laws, regulations, and guidance, the Contractors' Proposal "partially meets" this criterion.

Criterion 6 – Adaptive and Able to Accept New Project Features

The CVP is not complete, and additional project features are likely to be added in the future. This criterion evaluates the effects that the costs of new project facilities would have on the allocation of existing facilities.

The Existing Allocation is based on a feature-by-feature analysis that has been developed over the past 40 years. The allocation has been frequently updated and in some cases modified to accommodate the addition of new facilities, changes in repayment policies, and to reflect increased capital expenditures for the expansion, replacement, or repair of existing facilities. Each facility, whether it is a single-purpose or multi-purpose feature, is treated individually in the allocation and repayment computations, allowing facility-specific details to be incorporated without affecting the allocation of other features. Therefore, the Existing Allocation “meets” this criterion. The Contractors’ Proposal can also accept new features in a manner similar to the Existing Allocation and therefore also “meets” this criterion.

The Proportional Alternative is not well suited to accept future additions of single-purpose project features. Under this alternative, future additions of single-purpose facilities, the costs of which are specific costs, would affect the allocation of joint costs of existing facilities. This would occur even if the new facility resulted in no change in those project benefits which stemmed from the joint facilities.

As an example, if major rehabilitation or replacements were made to a canal (water supply) or powerplant (power), such as replacing a lining or rewinding a turbine, the total investment in these single-purpose facilities would increase. Although costs would be incurred simply to maintain or restore existing capacity, the increase in specific costs allocated to the purpose in question would change the percentage distribution of specific costs among all project purposes, and since joint cost allocation factors are derived from the

distribution of specific costs, they too would change. For instance, major rehabilitation on the Madera Canal, a single-purpose facility conveying irrigation water only, would cause an increase in the allocation of specific costs to the entire water supply purpose. In turn, although no other specific costs would have changed, the altered percentage distribution of specific costs to all project purposes would change the allocation of joint costs; namely, the percentage of joint costs allocated to water supply would increase and the percentage allocated to all other purposes would decrease.

In this hypothetical example of rehabilitation of the Madera Canal, the allocation of costs and repayment obligations for all CVP multi-purpose facilities, such as Shasta Dam and Reservoir, would change. The allocation to the water supply purpose would increase, as would the repayment obligations of all water supply functions; the costs allocated to all other purposes sharing joint costs would decline. It would appear unreasonable to expect expenditures on the Madera Canal to increase the repayment obligation of M&I water users and decrease the repayment obligation of commercial power customers when nothing had been done to any facilities they directly utilize. By contrast, under both the Existing Allocation and the Contractors’ Proposal, an increase in the costs of the Madera Canal would increase only the allocation of costs to the water supply purpose. The conveyance component of the irrigation repayment obligation would increase by the full amount of the increase in cost.

Since the addition of single-purpose project facilities would alter the allocation of costs for all facilities with joint costs, the Proportional Alternative “does not meet” this criterion.

Criterion 7 – Simplify the Cost Allocation Process

As stated in Chapter I, this study is being undertaken, in part, in response to recommendations from the GAO that the cost allocation process be simplified and streamlined. The development and use of updated allocation tools under the existing method has significantly

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reduced the effort and time needed to complete annual updates. Therefore, this objective has been met, at least in part, by Reclamation. These spreadsheets are applicable to all methods.

This criterion also addresses whether an alternative utilizes a method that simplifies the allocation of joint costs. In both the Existing Allocation and the Contractors' Proposal, the allocation of joint costs is based on previously calculated joint cost allocation factors. These factors would not be changed unless a new benefits-based cost allocation were completed, which would be a time-consuming and labor-intensive effort. The continued use of existing SCRB-derived joint cost allocation factors does not introduce complexity to the annual update process.

The Proportional Alternative would likely involve a recalculation of joint cost allocation factors each year if total capital investment for any project purpose changed (note the discussion of the impacts of adding specific costs under Criterion 6). Although this process has been automated, it might be necessary to describe the detailed derivations of the factors to adequately disclose the causes of changes in the factors. The additional effort to provide this information is considered minimal.

The annual effort required to prepare the Contractors' Proposal would be similar to that required for the Existing Allocation under the assumption that the yearly build-up of the environmental water account remains as presented in the proposal. Accommodating any changes in the account based on results of other calculations would require minor effort.

All three alternatives would result in approximately the same effort to complete annual updates of the cost allocation. The Existing Allocation and Contractors' Proposal would require significantly greater effort if and when a new allocation is undertaken although this work would not be initiated by the selection of either of these alternatives. Therefore, for the comparison of the three alternatives considered in this study, each of the three alternatives is

assigned an evaluation rating of "meets" this criterion.

Criterion 8 – Implementation Process

Although the expediency or complexity of the process to implement an alternative does not justify its selection or rejection, each alternative considered in this study may require different levels of approval. These are discussed below, but no weight is assigned to this criterion.

Regardless of the results and recommendations of this study, the report will be forwarded to the GAO to respond to the recommendations contained in its 1992 report. Requirements to submit this study for further approval are provided by the Department of Energy Organization Act. That act requires that any reallocation of joint costs of multi-purpose facilities be subject to Congressional approval of some form.

The Existing Allocation does not involve a change in the allocation of joint costs, and therefore would not require Congressional approval. Both the Proportional Alternative and the Contractors' Proposal involve changes in the allocation of joint costs. Therefore, the selection of either of these alternatives could require Congressional approval in some form.

EVALUATION SUMMARY

As summarized in Table VI-2, the Existing Allocation "meets" all seven criteria; the Proportional Alternative "meets" two criteria, "partially meets" one criterion, and "does not meet" four of them; the Contractors' Proposal "meets" three criteria, and "partially meets" four others. On the basis of the evaluation, Reclamation has determined that the Existing Allocation is the preferred allocation alternative and will continue to use for CVP plant-in-service allocations.

*Chapter VII – Summary***DECISION**

Neither the Proportional Alternative nor the Contractors' Proposal includes characteristics that provide compelling reasons to change the existing allocation method. Accordingly, Reclamation has determined that the Existing Allocation is the preferred allocation alternative and will continue to use it for CVP plant-in-service allocations. The principal reasons supporting this selection are summarized below (for more detail, refer to Chapter VI).

Proportional Alternative

The Proportional Alternative would allocate joint costs in proportion to specific costs incurred for each project purpose in a manner similar to the distribution of joint, or overhead, costs by a private firm producing multiple products. This approach would not allocate joint costs in relation to benefits provided by the project. Another serious shortcoming of the Proportional Alternative is that future additions of single-purpose facilities, the costs of which are specific, would alter the allocation of costs for all existing facilities with joint costs even if the benefits derived from the facilities with joint costs did not change.

Contractors' Proposal

The Contractors' Proposal would allocate joint costs based on a determination of project benefits, but would utilize an older estimate of benefits than the Existing Allocation and would introduce the environment as a new water use. This alternative would replace the 1975 joint cost allocation factors used in the Existing Allocation with factors calculated in 1970. This change would be based primarily on the claims that the cost of the single-purpose power alternative in 1975 was biased by high energy costs at the time and that flood control benefits were understated because previous COE flood control benefit estimates were not indexed to then-current levels in the 1975 study. High energy costs were symptomatic of the period, and short of a new study, it is not clear there is a compelling reason for change. The COE flood control benefits were not indexed as a result of the recommendation by the COE, which appears, in this evaluation, to have been reasonable (for more detail, refer to Chapter VI).

In addition, the Contractors' Proposal would add the environment as a water use for the purpose of calculating repayment responsibilities for costs allocated to the water supply purpose. The amount of environmental water would be based on the amount of water dedicated annually by section 3406(b)(2) of the CVPIA to restore fish and wildlife habitats and would be treated as an additional CVP water supply. Ultimately, according to the proposal, the amount of environmental water would build to 800,000 acre-feet per year. The Contractors' Proposal assumes that some of the costs associated with this water would be reimbursable, representing environmental mitigation, while the remainder, representing enhancement, would be non-reimbursable. As discussed in Chapter VI, the CVPIA does not indicate that any CVP costs are to be reallocated as a result this dedication of water and does not state that any of the dedicated water is for habitat enhancement purposes. In fact, the CVPIA includes provisions to acquire water through water purchases using the Restoration Fund in addition to the 800,000 acre-feet to help fulfill remaining mitigation, protection, and restoration needs and to enhance aquatic and wetland habitats. Furthermore, environmental water released from CVP reservoirs for instream environmental benefits could also be used downstream for other beneficial purposes, including irrigation or M&I uses, farther downstream. In such cases, the Contractors' Proposal could double count the use of water. Finally, the history of Federal legislation and SWRCB decisions clearly shows that maintaining environmental conditions is a requirement of the project and that water rights, including CVP water rights, are contingent upon meeting certain environmental priorities. Consequently, the Contractors' Proposal is not consistent with existing Reclamation guidance on allocating costs, nor with provisions of Federal Reclamation law and State water rights decisions.

FUTURE STUDY

If it becomes appropriate in the future to consider performing a new cost allocation study, Reclamation should first consider the informational and technical requirements to complete such a study. A new allocation study would require estimates of historic and future project accomplishments – including water supply, flood control, power, and fish and wildlife – benefits, and costs. It is expected that such a study would be time consuming and potentially costly. Therefore, before one were undertaken, an evaluation should be completed to identify the following:

- Existing data available for use and what new data would be required;
- The levels of effort needed to develop new data and perform the analyses;
- A methodology to identify past and future benefits for all project purposes; and
- A process to integrate revised estimates of benefits with previous estimates and existing contractor repayment responsibilities.

The evaluation would include coordination with other agencies that would be expected to provide input to a new allocation study – such as the COE and Service – to determine their ability and willingness to participate in it.

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 99-546¹. 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 Allocation, 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 1

	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 1²

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 Update³. 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.

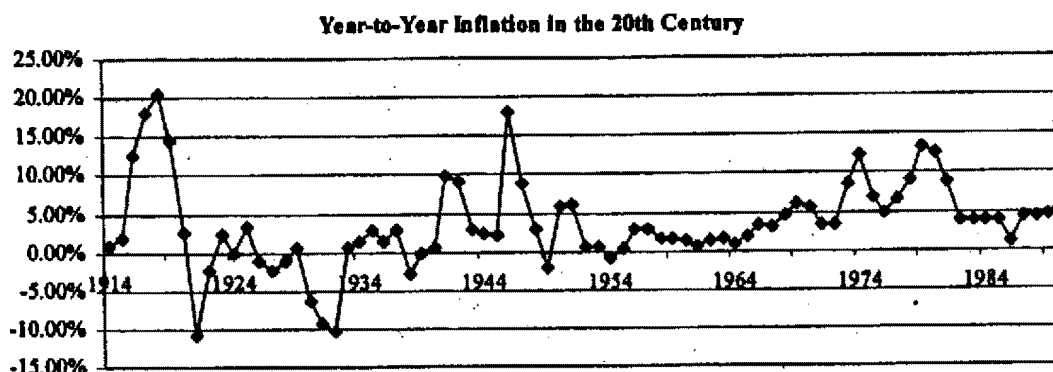
Second, in the 1970s all fossil-fuel prices rose sharply. Petroleum costs more than doubled in 1974 alone and increased an average of over 26 percent a year for the 1970-1980 period. Natural gas prices, accelerated by decontrol under the Natural Gas Policy Act (NGPA, P.L. 95-621), rose by over 23 percent 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 SO₂, 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.

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 2⁴

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
1963	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 3⁵

⁴ Compiled from U.S. Bureau of Labor Statistics Consumer Price Index data.

<http://ftp.bls.gov/pub/specialrequests/cpi/cpia1.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)		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 4⁶

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	Contingencies	Total
800 MW Coal	159	194	85	106	685
800 MW Oil	140	152	71	96	459

Figure 5⁷

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 recompute 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 factors⁸.

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 as 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 Appendix Two 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		Contractor		Change in Allocation	
	Existing Allocation		Proposed 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 mitigation⁹ 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 that those who will be repaying the excess costs have knowledge of it. A Definite Plan report should be useful in this regard"*. [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 costs¹⁰.

- In his response memo on February 28, 1978, Commissioner Higginson advised Secretary Beard that *"it has been determined that reauthorization is 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 effect.

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.

Appendix B

CENTRAL VALLEY PROJECT PLANT-IN-SERVICE ALLOCATION AS OF SEPTEMBER 30, 1996 PROPORTIONAL ALTERNATIVE EXCLUDED, EXEMPT, JOINT, AND SPECIFIC COSTS

EXCLUDED COSTS	
Feature	Plant In Service
Buildings	\$3,085,682.37
Depreciation - Buildings	(2,107,846.99)
Folsom-SO, Canal Deferred Use	2,428,000.00
Folsom Safety of Dams	20,885,542.24
New Melones Archology	4,120,000.00
New Melones Hwy. Improvement	13,280,000.00
New Melones Non-Returbur. IDC	27,012,917.90
Carrying Canal Archology	10,906.00
T-C Canal Deferred Use	54,460,000.00
T-C Canal Archology	3,500.00
San Felipe Non-Returbur. IDC	199,108.00
Little Panocha Creek SOD	5,565.67
Los Banos Creek SOD	8,196.38
On-Hill Safety of Dams	4,598,809.66
8F State Highway Improvement	1,380,318.00
San Luis Unit - State	224,110,594.22
San Luis Dam Archology	6,891.00
Abandoned/Retired Plant	(127,998.48)
Depreciation - Structures	(2,006,075,668.91)
Capitalized Movable Equipment	3,854,700.10
Depreciation - Equipment	(1,584,141.46)
Abandoned/Retired Plant	127,998.48
Loss on Property Transfers	28,892.32
Accumulated Depreciation	2,006,187,368.34
Total	\$238,508,513.43

EXEMPT COSTS	
Feature	Plant In Service
New Melones	\$365,112,787.86
Black Butte	14,508,518.47
COE Reapment Assumed	1,453,4810.48
MAI Reapment Contracts	8,387,248.87
Intigation Reapment Contracts	314,392,063.30
Los Banos Creek Dam - Federal	3,728,041.25
Western Irrigation	48,348,548.00
San Felipe Division	361,357,020.05
Spring Creek Delta Dam	3,710,480.00
Total	\$1,123,017,798.48

JOINT COSTS	
Multi-purpose features allocated using joint cost allocation from 1975 Reallocation Study	
Feature	Plant In Service
Highway 49 Repairs	\$1,994,689.74
Sage Pine Dam & Reservoir	43,537,281.01
Folsom Dam & Reservoir	62,146,902.83
Folsom SOD (Returburish)	3,886,026.87
Folsom Perm. Oper. Facilities	627,993.81
Nimbus Dam	7,001,883.78
Sly Park Perm. Oper. Fac.	112,148.00
Tracy Perm. Oper. Facilities	1,143,686.12
Saltun Marsh Preservation	28,698,483.00
Friant Perm. Oper. Facilities	305,548.00
Centralized WRP, Radio, Telem.	19,088,887.81
Shasta Perm. Oper. Facilities	8,444.82
Shasta Dam & Reservoir	400,571.87
Shasta Rain Gauge	123,697,622.82
Shasta Stream Gauge	643,301.86
Whiskeyman Dam	11,146.00
Cleaver Creek Tunnel	17,741,804.87
Spring Creek Tunnel	49,881,750.37
Tracy Dam & Reservoir	19,185,827.39
Tracy Perm. Oper. Facilities	82,794,800.05
Tracy Radio Network	365,281.28
Subtotal	\$485,282,824.05

Multi-purpose features allocated using separate cost fractions from 1975 Reallocation Study	
Feature	Plant In Service
Folsom South Perm. Oper. Fac.	\$10,141.88
Friant Dam & Reservoir	28,887,678.82
Tejuna-Coulas Canal	81,286,380.27
T-C Canal Flw Facilities	43,527,848.53
Subtotal	\$183,461,885.31
Total (Initial Joint Cost Pool)	\$822,714,779.36

ALLOCATION BASE	
1996 Allocation Base	\$3,290,188,020.93
Excluded Costs	(359,508,513.43)
Exempt Costs	(\$1,123,017,798.48)
Proportional Alternative Allocation Base	\$1,807,662,711.02
INITIAL JOINT AND SPECIFIC	
Initial Joint Costs	622,714,779.36
Initial Specific Costs	1,184,943,931.66
Proportional Alternative Allocation Base	\$1,807,662,711.02
REVISED JOINT AND SPECIFIC (With specific cost for flood control) 1/	
Joint Costs	598,738,848.47
Specific Costs	1,208,920,081.55
Proportional Alternative Allocation Base	\$1,807,662,711.02

1/ Specific flood control cost			
Feature	Percent flood control apcn	Plant In Service	Specific flood control
Folsom Dam	19.795%	\$82,146,902.83	\$11,880,510.53
Friant Dam	8.462%	28,887,678.82	1,884,778.91
Shasta Dam	8.425%	123,837,622.82	10,450,842.96
			\$23,876,129.89

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DEPARTMENT OF THE ARMY
SACRAMENTO DISTRICT, CORPS OF ENGINEERS
650 CAPITOL MALL
SACRAMENTO, CALIFORNIA 95814

REPLY TO
ATTENTION OF
SPKED-W

Appendix C

27 February 1975

COE Letter of
February 27, 1975

Mr. B. E. Martin, Regional Director
Mid-Pacific Regional Office
U. S. Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

Dear Mr. Martin:

Please refer to your letters of 30 August 1974 and 13 February 1975 (your reference MP-740 820) concerning the matter of current flood control benefits for Friant, Shasta, Folsom, and Auburn Dams. Upon receipt of your 30 August letter we initiated pertinent hydrologic studies of the Sacramento, American, and San Joaquin Rivers, since it appeared that the flood events since 1959 could be expected to modify the supporting hydrology for our 1959 studies. The 1959 studies, through an updating process, were the basis for the flood control benefit estimates provided you in our letter of 25 April 1969. Completion of the hydrologic studies in mid-December 1974 confirmed our opinion as to the likelihood of such modification. It appears that the effect of the new hydrology would be to increase the indicated average annual benefits. Price level increases and increased economic development would also increase previously computed benefits.

In recent months the guideline framework for Corps flood control benefit studies has undergone extensive change with concurrent substantive increases in the complexity of such studies and in the time and effort necessary to conduct them. While we are uncertain as to the magnitude of the effect of these guideline changes on flood control benefit computations for the four dams, it appears that they will act to appreciably decrease the benefits. These considerations of probable adverse effect of the new guidelines and probable favorable effect of new hydrology, viewed in the light of general price increases and economic growth during the past five years in areas protected by the four dams, cause us to conclude that current flood control benefits would at least equal those

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Mr. B. E. Martin, Regional Director

27 February 1975


supplied you in April 1969, but might not significantly exceed them. Inasmuch as it does not appear appropriate to merely update the 1969 benefits, which, as previously indicated, were derived through updating of 1959 values, we recommend that you use the 1969 data to meet your present needs.

With regard to your future needs and in view of the desirability of your having project flood control benefits based on new hydrology and derived in conformity with our new guidelines, we further recommend that detailed study of such benefits be undertaken. Our present workload and established priorities for work output preclude our involvement in such study prior to July 1975. While some funding for this work could come from our own resources, we estimate a requirement for additional funds in the order of \$15,000, with completion of the work by the end of March 1976.

With regard to current navigation benefits creditable to Shasta Dam, we are of the opinion that an increase over the 1959 estimate, as reiterated in our letter of 25 April 1969, is appropriate. In the absence of detailed analysis, we consider an estimate of \$1,500,000 for such benefits to be reasonable.

Please let us know if you wish us to undertake the detailed reevaluation of the benefits, and if you can furnish the necessary funds.

Sincerely yours,


F. G. ROCKWELL, JR.
Colonel, CE
District Engineer

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Appendix D

RESPONSES TO COMMENTS ON DRAFT REPORT

May 2001

This appendix presents Reclamation's responses to public comments received on the CVP Cost Allocation Study Draft Report. The Draft Report was released for public review and comment in January 2001 and the comment period closed on March 26, 2001. During the comment period, Reclamation received comment letters from the groups listed in Table D-1. In addition to soliciting written comments on the Draft Report, Reclamation held eight public meetings during the course of the allocation study to provide the public an opportunity for input and comments.

TABLE D - 1
GROUPS THAT PROVIDED COMMENTS
ON THE DRAFT REPORT

GROUP	ABBREVIATION
Northern California Water Association	NCWA
Santa Clara Valley Water District	SCVWD
Central Valley Project Water Association	CVPWA
Sacramento Municipal Utility District	SMUD
Westlands Water District	WWD

This appendix presents copies of comment letters on the Draft Report followed by Reclamation's responses to comments. Responses have been prepared to address comments identified on the letters, as indicated with brackets. Many of the letters expressed similar comments regarding the evaluation of alternatives and selection of the preferred alternative. Where applicable, responses to similar comments are referenced to prior responses.

In addition to a recommendation that Reclamation continue use of the Existing Allocation methodology, the Draft Report recommended that Reclamation begin to identify the data and agency coordination requirements to support a new cost allocation study. Four groups commented on the recommendations regarding a new allocation study, with two in support and two opposed.

D-1

*CVP Cost Allocation Study
Final Report – May 2001*

Appx0353



March 26, 2001

Mr. Mike Finnegan
Manager
Business Resources Center
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825-1898

Dear Mr. Finnegan:

I appreciate the opportunity to comment on the recently released draft Central Valley Project Cost Allocation Study. The Northern California Water Association (NCWA) represents 70 water suppliers and individual farmers who collectively irrigate over 850,000 acres of fertile Northern California farmland, including a number of Central Valley Project Sacramento River Water Rights Settlement Contractors and Water Service Contractors. Several of our members also deliver water to state and federal wildlife refuges and a large portion of this land serves as important seasonal wetlands for migrating waterfowl, shorebirds and other wildlife.

After reviewing the study, NCWA has the following comments:

- | | |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NCWA-1 | <ul style="list-style-type: none"> • The preferred alternative using the existing cost structure understates the flood protection and environmental enhancement provided by the Central Valley Project (CVP). • Use of the cost allocation figures developed in 1975 inflates the joint costs allocated to power due to the inclusion of high priced nuclear power to the allocation. As a result, flood control benefits are understated in the allocation. • The single-purpose alternative costs and related benefits that are accrued to the authorized purposes in the 1970 allocation study more accurately represent the allocation between reimbursable and non-reimbursable project purpose CVP costs. |
| NCWA-2 | <ul style="list-style-type: none"> • The benefits-based method should continue to be used as the means of allocating CVP costs. |
| NCWA-3 | <ul style="list-style-type: none"> • The Bureau of Reclamation should consider the benefit and viability of conducting a new cost allocation study that is based upon current single purpose alternative costs and current benefit estimates. |

Once again, thank you for this opportunity to comment.

Sincerely,

Todd Manley
Director of Government Relations

455 Capitol Mall, Suite 333 Sacramento, California 95814 4406 Telephone (916) 442-0333 Facsimile (916) 442-4033

D-2

CVP Cost Allocation Study
Final Report – May 2001

Appx0354

COMMENT	RESPONSE
NCWA – 1	<p>Reclamation acknowledges that both the 1970 and 1975 joint cost allocation factors may not accurately represent the historical or current benefits provided by multipurpose facilities of the CVP. In Chapter VI of the Draft Report, issues associated with both sets of joint cost allocation factors are addressed in detail under the discussion of Evaluation Criterion 1 – Allocate Joint Costs Based on Project Benefits.</p> <p>A new allocation study would consider all accomplishments and benefits over the life of the project, not just those expected to occur in the future. As stated in the Draft Report, “Only a complete, new allocation study that estimated project benefits, costs of facilities in service, and single-purpose alternatives could produce joint cost factors that would represent current conditions. And, even if one were performed, it would still leave questions as to how to integrate the results with past uses of project facilities and historic allocations used for repayment to date.”</p>
NCWA – 2	<p>Reclamation concurs that joint costs of the CVP should continue to be allocated using benefits-based methods, as recommended in the Draft Report. In the evaluation of alternatives, several criteria that reflect the importance of benefits-based joint cost allocation methods were applied. These include: Criterion 1 – Allocate Joint Costs Based on Project Benefits; Criterion 3 – Apply Accepted Cost Allocation Standards; and Criterion 4 – Consistency with Past CVP Cost Allocation Methods.</p>
NCWA – 3	<p>As stated in the Draft Report, a new cost allocation study that considers current project benefits and alternative costs would be needed to establish new joint cost allocation factors. In addition, historical project accomplishments and benefits would have to be taken into account in any new allocation study. Chapter VII of the Draft Report recommends consideration of a new interim cost allocation based on new estimates of project accomplishments – including water supply, flood control, power, and fish and wildlife benefits and costs. Because such a study could be time consuming and potentially costly, the report recommends that Reclamation begin with an appraisal of data requirements and the ability of other agencies, such as the Corps of Engineers and the Fish and Wildlife Service, to participate in such a study.</p> <p>Reclamation notes NCWA’s support to begin an evaluation of data requirements and agency coordination needed for the development of a new cost allocation study.</p>

Santa Clara Valley
Water District



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AN EQUAL OPPORTUNITY EMPLOYER

March 26, 2001

Mr. Michael Finnegan
Business Resources Manager, Mid-Pacific Region
United States Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825-1898

Dear Mr. Finnegan:

Thank you for the opportunity to comment on the January 2001, *CVP COST ALLOCATION STUDY - DRAFT REPORT*. Our appreciation extends to the process involved in producing this report. You and your staff encouraged an open process and invited contractor participation. Additionally, we recognize the enormous amount of work involved in documenting, correcting, updating, and streamlining the current process.

SCVWD-1

The preferred alternative chosen in the draft report is to continue to use the existing allocation factors. These 1975 factors do not account for the increase of flood control benefits nor do they take into account changes that have been made in project operations to accommodate the escalation of environmental enhancement. The understatement of benefits received by either flood control or environmental enhancement significantly impacts other water and power users.

SCVWD-2

We do not advocate doing a new allocation study at this time. We assume such a study is prohibitively expensive and we must, faced with ever increasing water costs, make every effort to contain costs for our constituents. However, we urge Reclamation to note the understatement of benefits allocated to the both flood control and environmental enhancement, ask that consideration be given to reevaluation of these benefits when a new allocation is undertaken.

SCVWD-3

Finally, we have a specific concern about the cost allocation of the Folsom South Canal. We believe that the basis for deferred costs associated with the canal should be thoroughly reevaluated.

The mission of the Santa Clara Valley Water District is a healthy, safe and enhanced quality of living in Santa Clara County through the comprehensive management of water resources in a practical, cost-effective and environmentally sensitive manner.



Mr. Michael Finnegan

2

March 26, 2001

Again, we appreciate your efforts to make the process involved in completing this study open to contractor participation.

If you have questions, please feel free to call.

Sincerely,



Joan A. Maher
Imported Water Manager

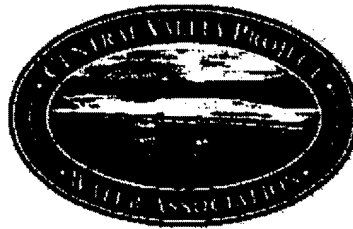
D-5

*CVP Cost Allocation Study
Final Report – May 2001*

Appx0357

GOV0000710

COMMENT	RESPONSE
SCVWD – 1	See Response to NCWA – 1
SCVWD – 2	Reclamation notes SCVWD's preference not to begin development of a new cost allocation study at this time. Only a new allocation study could evaluate project accomplishments and associated monetary benefits.
SCVWD - 3	Public Law 89-161, which authorized the Auburn-Folsom South Unit of the CVP, provided for deferral of the incremental cost of constructing additional capacity in the Folsom South Canal to serve the East Side Division of the CVP in the event that division is authorized. The Draft Report focused on consideration of alternative joint cost allocation methods and never addressed issues related to the determination of construction cost deferral for the Folsom South Canal. Therefore, this comment cannot be addressed within the context of responses to the Draft Report.



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Serge: sergebirk@mail.msn.com

March 26, 2001

Mr. Mike Finnegan
Manager
Business Resources Center
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825-1898

Subject: Comments on Draft CVP Cost Allocation Study

Dear Mr. Finnegan:

Thank you for the opportunity to comment on the recently released draft Central Valley Project Cost Allocation Study. We would like to commend your staff, in particular Craig Stroh, for the highly professional manner in which they coordinated and worked with the CVP water and power contractors throughout the lengthy study process. We thank you for allowing us to submit our cost reallocation proposal for consideration and to be actively involved in the development of the criteria used to evaluate the merits of each of the three cost reallocation alternatives. The comments that follow express the overall concerns of the Central Valley Project Water Association membership regarding Reclamation's selection of the current CVP cost allocation methodology as the preferred alternative. Some member districts will also be submitting individual comment letters relative to your preferred alternative selection.

In the draft report, the preferred alternative is to continue using the existing cost allocation. We could accept the results of this study if it were modified to correct two significant deficiencies that will be perpetuated in the existing allocation. One deficiency is the understatement of the benefits (and resulting allocated costs) the CVP provides for flood protection. We also believe that the environmental enhancement qualities of water dedicated under CVPIA need to be given ample consideration. While these two issues were not deemed to have fully met evaluation criteria used in the decision making process, we believe these issues are not adequately addressed in the existing cost allocation plan and request your reconsideration.

D-7

*CVP Cost Allocation Study
Final Report – May 2001*

Appx0359

GOV0000712

We support the two additional recommendations made in the draft report regarding the continued usage of a benefits-based allocation method for allocating CVP costs, and future consideration of a new cost allocation study (using a benefits-based approach) should it be determined that the resulting benefits of such a study outweigh the costs. We request that the issues raised by us in the contractor proposed alternative, and reiterated in this letter, be addressed as part of any new cost allocation study, when and if such a study is conducted.

Flood Protection

The contractor proposed alternative used the cost allocation factors developed in Reclamation's 1970 allocation study rather than those developed in the 1975 short-form allocation study (the existing allocation) to allocate joint costs. We believe the 1970 allocation factors are more appropriate than the 1975 factors because they more accurately reflect the single-purpose alternative costs and related benefits accruing to each of the authorized project purposes and thus more accurately portray the allocation of CVP costs between the reimbursable and non-reimbursable project purposes.

CVPWA-1

Of particular concern in the existing allocation (the 1975 short-form) are the single-purpose alternative power costs and flood control benefits. The single-purpose alternative power costs are based on higher-than-normal energy costs associated with nuclear power that do not represent the historical or projected power situation and as such overstate the joint costs that are allocated to power. Conversely, the flood control benefits used in the existing allocation were carried over from the 1970 study, and were not indexed to 1975 price levels. This resulted in an understatement of the flood control benefits in relation to the other benefits used in the existing allocation. As a consequence, costs allocated to flood control are understated. By way of comparison, the existing allocation allocates 21.8 percent of the CVP's joint costs to power (up from 5.9 percent in the 1970 allocation) and allocates 20.5 percent of the CVP's joint costs to flood control (down from 35.5 percent in the 1970 allocation).

Environmental Enhancement

We maintain that the authorized use of CVP water supplies has been expanded to include environmental enhancement as required under provisions of the CVPIA, the Endangered Species Act (ESA), and the Delta Water Quality Control Plan. Accordingly, in the contractor proposed cost allocation, we attempted to reflect this re-operation of the CVP by factoring the 800,000 acre-feet of existing CVP water reallocated to the environment under the CVPIA into the water supply sub-allocation component of the existing allocation.

CVPWA-2


The basis for treatment in the water supply sub-allocation was based on the parameters set forth in the CVPIA. The result was the allocation of all of the costs of the environmental water supply to the water and power users during the period 1993 through 2006—the period when the environmental restoration (mitigation) actions are scheduled for completion. Beginning in 2007 and continuing through 2030, the costs associated with water used for environmental purposes would be split between the water and power users (mitigation) as a reimbursable project cost and to environmental enhancement as a non-reimbursable project cost. When the entire 800,000 acre-feet is available for environmental use, the water and power contractors' share would be 37.5 percent of the costs and the environmental water account share would be 62.5 percent based on a cost sharing formula derived from applicable provisions of the CVPIA.

CVPWA-3

We recognize that there are inherent problems with using either the 1970 or the 1975 cost allocation factors, and that a completely new reallocation study based on current single purpose alternative costs and current benefit estimates would be needed to accurately reflect the appropriate amounts allocated to the reimbursable and non-reimbursable project purposes. We also recognize that such a study would be potentially expensive, time consuming, and controversial and that now is probably not the time to undertake such an effort. However, upon such time when a new cost allocation would be warranted, we believe that the two issues, raised above, namely appropriate allocation of benefits and costs (i.e., the flood control and power issues described above) should be considered in addition to the enhancement qualities of water dedicated under CVPIA.

We look forward to engaging with Reclamation in the future to address these concerns. If you have any questions on the above discussion or recommendation, please contact George Senn of my staff at (916) 448-1638.

Sincerely,


Jason Peltier
Manager

COMMENT	RESPONSE
CVPWA – 1	See Response to NCWA – 1
CVPWA – 2	<p>These issues were considered at length in Chapter VI, Evaluation of Alternatives, in the Draft Report. Under Evaluation Criterion 2 – Adjust Repayment in Response to Changes in Project Operations, the Draft Report addressed the assumption in the Contractors' Proposal that a portion of the 800,000 acre-feet dedicated for environmental uses by section 3406(b)(2) of the CVPIA is considered enhancement. As discussed in the report, the CVPIA does not state that any of the water dedicated by provision 3406(b)(2) is for enhancement. The report notes that the CVPIA included other provisions for the purchase of supplemental water to assure the mitigation, protection, restoration, and enhancement objectives of the act could be accomplished. The report also notes that provisions of the CVPIA from which the repayment formula in the Contractors' Proposal is borrowed do not state that the repayment proportions are based on assumed ratios among environmental mitigation and enhancement. In fact, as noted in the Draft Report, if the CVPIA proportions were fully applied in the Contractors' Proposal, the State of California would be responsible for 37.5 percent of the costs of water dedicated to environmental enhancement, which was not part of the Contractors' Proposal. The report also notes that the year in which environmental enhancement would begin (2007), as assumed in the Contractors' Proposal, is not contained in the CVPIA, but is based on a projection, which according to the Contractors' Proposal, is to be tied to CalFed actions. Although CVPIA actions are coordinated with CalFed, the repayment provisions of the CVPIA, passed in 1992 before CalFed even came into existence, cannot be interpreted as conditional on proposed CalFed actions or their assumed success.</p> <p>Under Evaluation Criterion 5 – Consistency with Laws, Regulations, and Guidance, the Draft Report discusses the significant limitations associated with utilizing the water supply sub-allocation to quantify repayment obligations for environmental water uses. In particular, the water supply sub-allocation is based on actual and estimated future deliveries to project water users, including irrigation, M&I, and wildlife refuges. The use of this sub-allocation approach was selected by Reclamation to conveniently account for shifting uses of water among water users. The Contractors' Proposal utilized the same delivery estimates as the Existing Allocation, but added up to 800,000 acre-feet per year under environmental water use. As discussed in the report, the introduction of an additional 800,000 acre-feet to the existing annual quantities does not reflect a redistribution of water uses. Also, it constitutes the addition of water to total water amounts and thereby violates the original intent of the sub-allocation approach.</p>

COMMENT	RESPONSE
CVPWA – 3	Reclamation notes CVPWA's preference not to begin development of a new cost allocation study at this time.

**SMUD**

SACRAMENTO MUNICIPAL UTILITY DISTRICT ☐ P. O. Box 15830, Sacramento CA 95852-1830, (916) 452-3211
AN ELECTRIC SYSTEM SERVING THE HEART OF CALIFORNIA

March 16, 2001
ET&C 01-043

Mr. Mike Finnegan
Manager, Business Resources Center
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825-1898

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Subject: Comments on Draft CVP Cost Allocation Study (January 2001)

Dear Mr. Finnegan:

As the largest Preference Power Customer, the Sacramento Municipal Utility District (SMUD) appreciates the opportunity to provide comments on the CVP Cost Allocation Study Draft Report (Report), dated January 2001. The Study Overview, Cost-Allocation Alternatives, Summarization of Findings, and the Study Recommendations were all well presented by Reclamation at the public meeting held on February 9, 2001, in Sacramento. As in the previous public meetings, the presentation was well organized, the materials professionally presented, and there were ample opportunities for attendees to orally present their questions and/or concerns.

SMUD recognizes the Bureau of Reclamation's (Reclamation's) efforts undertaken to reach the recommendations made in the Report, and appreciates the fact that Reclamation has been open to a process that allowed both water and power users to gain an in-depth understanding of the cost-allocation methodologies used and considered by Reclamation to allocated specific and multi-purpose costs among the various project purposes.

SMUD understands that in the Report, Reclamation is recommending the continued use of the Existing Allocation method, as opposed to adopting the water and power users' Contractor's Proposal, or alternately the GAO supported Proportional Alternative. SMUD continues to believe that until a full-blown cost allocation study is completed, the adoption of the Contractors' Proposal is the correct choice to follow in the interim for the fair allocation of multi-purpose costs. By proceeding with Reclamation's proposed continued use of the Existing Allocation methodology, Reclamation will only exacerbate further the inaccuracies inherent in the current allocation method.

SMUD's specific comments can be summarized under three major categories: 1) Treatment of Water and Power under like methodologies in future SCRB (Separable Costs, Remaining Benefits) Studies, 2) Fair allocation of multi-purpose project costs, and 3) Determining a date to commence a full SCRB study.

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DISTRICT HEADQUARTERS ☐ 6201 S Street, Sacramento CA 95817-1899

D-12

CVP Cost Allocation Study
Final Report - May 2001

Appx0364

Treatment of Water And Power Under Like Methodologies In Future SCRB Studies

SMUD-1

The core components of the SCRB allocation methodology involve the determination of separable costs for each defined purpose, as well as a determination of the single purpose alternative, benefits, justifiable expenditures, and the resulting distribution factors. The ultimate goal of the analysis is the distribution of joint costs remaining after assignment of the separable costs. In the Plant-In-Service Studies that are made by the Reclamation, the separable costs are determined by multiplying the total current costs of each facility by a percentage factors that were, in most cases, determined back in 1970/75. Significant questions arise regarding the current applicability of the factors used and whether or not the water and power contractors are treated equally in how the SCRB analysis is carried out.

Generally, water-supply benefits have not been evaluated as part of the SCRB studies done to date since Reclamation has assumed, in conducting such studies, that such water-supply benefits would exceed the cost of any single-purpose alternative determined. The SCRB methodology requires that the smaller of the estimated benefits attributable to each Project purpose, and the alternate costs of achieving each, represent the amount that can justifiably be spent on each purpose. On the other hand, the SCRB studies that have been completed to date have utilized benefit studies for power, navigation, and fish and wildlife. The practice of not evaluating the water-supply benefits, though possibly administratively less burdensome, creates a process that does not allow for similar study methodologies to be used in carrying out a SCRB analysis on the costs and benefits that accrue to the water and power functions separately.

SMUD-2

Furthermore, because Reclamation has utilized for years the practice of grouping all water-supply functions within one general category of water supply, and then sub-allocating the resulting allocation percentages to M&I, irrigation, and fish and wildlife water supply, the practice has the effect of under allocating multi-purpose costs to the water-supply function as a whole.

SMUD encourages, Reclamation to treat the power and water-supply functions in a similar manner when determining the justifiable expenditures and subsequent distribution factors in future SCRB analyses.

Fair Allocation of Multi-Purpose Costs

The CVP allocation process is a complicated methodology that uses data from various sources that is then rolled up to establish a repayment obligation for the water and power users. Not only do the allocation elements come from various sources, they also have been developed at different times. Many of the components of the present allocation algorithm depend upon factors that were developed in 1970 and 1975.

As reported in the Contractors' Proposal, 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 power plants used 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 the shifting of allocation factors as shown in table 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	-0.24	0.00

Issues Regarding Power Costs

SMUD-3

With respect to power, the single-purpose alternative 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, but to also consider environmental, regulatory, sociological, international political, and other factors that influenced the selection and cost of alternatives. In other words, rather than evaluate the type and cost of power alternatives that could have been constructed in the period when the actual CVP facilities were constructed, Reclamation selected nuclear technology – an alternative that was not even a possibility at the time of original construction. The problems associated with such an approach need to be corrected so that the power function is not allocated more costs than is appropriate.

SMUD-4

With the ongoing energy crisis occurring in California and throughout the electric utility industry, Reclamation may now be tempted to assume that the cost and benefit assumptions used in the 1975 "short form" cost allocation study are appropriate. There are several factors that will make such an assumption inaccurate; these are: 1) the cost to construct alternate power plants have not change significantly over the past few years, 2) new power plants operate at a much greater efficiency level as compared to plants built in the 1970s, and 3) the present energy crisis is but an unusual spike on a long-term trend of power-supply costs.

SMUD-5

Issues Regarding Indexing of Costs

Because the CVP was constructed over 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 – although, interestingly, neither power nor flood control was indexed.

SMUD-6

Issues Regarding Environmental Costs

The current cost allocation methodology does not adequately reflect the significant and new environmental benefits that have been generated by re-operation of the project and the associated enhancement and mitigation activities that have subsequently ensued. Accordingly, the current allocation does not reflect the noteworthy diminishment of benefits seen by the water and power functions. These shortcomings need to be corrected in the current cost-allocation update.

The authorized use of CVP water supplies has been expanded to include environmental enhancement as required under provisions of the CVPIA, the Endangered Species Act (ESA), and the Delta Water Quality Control Plan. Accordingly, in the Contractor's Proposal an attempt was made to reflect this re-operation of the CVP by factoring the 800,000 acre-feet of existing CVP water reallocated to the environment under the CVPIA into the water-supply sub-allocation component of the existing allocation method. The basis for treatment in the water-supply sub-allocation was based on the parameters set forth in the CVPIA. The result was the allocation of project capital costs for the 800,000 acre-feet to the water and power users during the period 1993 through 2006—the period when the environmental restoration (mitigation) actions are scheduled for completion. [Beginning in 2007 and continuing through 2030, the costs associated with water used for environmental purposes would be split between the water and power users (mitigation) as a reimbursable project cost (37.5%), and to environmental enhancement as a non-reimbursable project cost (62.5%).]

SMUD-7

We recognize that the performance of a new cost allocation study is an expensive, and a time consuming process; we are also concerned about continued use of the inappropriate cost-allocation factors for determining the repayment responsibilities of the power function. Accordingly, we propose that Reclamation return to the 1970 Separable Costs Remaining Benefits cost allocation factors until such time as a new study is completed. When a new cost allocation is conducted, we believe that the environmental enhancement qualities of water dedicated under CVPIA, in addition to the fair allocation of multi-purpose costs, should be considered as part of all future SCRB studies.

Determining A Date To Commence A Full SCRB Study

SMUD-8

As stated before, we also recognize that carrying out a full SCRB study could be expensive, time consuming and controversial. Given the recent history of Reclamation's attempts to conduct and successfully complete cost-allocation studies, we believe that now is the time for Reclamation to start planning and budgeting for a full SCRB study. SMUD estimates that such a study will take million of dollars and several years to

4

SMUD-8
(continued)

complete, and therefore it is necessary to plan for and establish a target date as to when to commence and complete such a study. SMUD supports Reclamation's proposal made in the "Recommendations" section of the Report to first make an evaluation to identify what existing data is available for use, what new data would be required, and the level of effort needed to perform the analysis required under a new cost-allocation study. Also, as stated in the Report, SMUD supports Reclamation's recommendation to involve other agencies that would be expected to provide input to a new study, such as the Corps of Engineers.

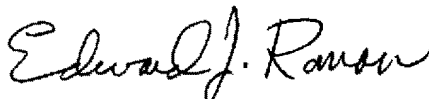
In summary, SMUD requests that Reclamation make the following changes to the cost-allocation methodology to be used in the interim until a full cost-allocation study can be undertaken, and completed:

- 1) Return to the use of 1970 data and associated cost-allocation factors with respect to the power function.
- 2) Adjust the allocation factors for flood control and environmental restoration to reflect the increased benefits that have accrued to these functions, and the associated decrease in benefits to the water and power functions.
- 3) Index the 1970 data to the present time frame in a consistent manner for all project functions.

Details supporting these requests have been provided in the Contractor's Proposal, which have been previously provided to Reclamation.

Thank you for considering our requests. Your immediate response to the above comments, suggestions and requests would be appreciated.

Sincerely,



Edward J. Roman

Senior Power Contracts Specialist

Cc: Craig Stroh, USBR
Howard Hirahara, Western
Jason Peltier, CVPWA
Matt Foskett, NCPA

D-16

*CVP Cost Allocation Study
Final Report – May 2001*

Appx0368

COMMENT	RESPONSE
SMUD – 1	<p>The judgment of economists at the time of the last detailed cost allocation studies in 1970 and 1975 was that water supply benefits would exceed the cost of single-purpose alternatives. Since M&I benefits are normally based on alternative costs, the most critical judgment at the time was that irrigation benefits, which are based on farm income, would be greater than the single-purpose alternative cost to provide an irrigation water supply. The SCRB method provides for the use of such simplifying assumptions where appropriate. Given the recent pattern of agricultural returns, this simplifying assumption may not be appropriate for some time periods if a new allocation study were to be undertaken at this time.</p> <p>If a new cost allocation study were undertaken, it would consider all benefits, including irrigation benefits, over the life of the project rather than at a single point in time so that periods of agricultural prosperity would be weighed with periods of diminished returns.</p>
SMUD – 2	<p>The technique of grouping several water use functions together in the water supply purpose then sub-allocating costs in proportion to water deliveries is an accepted cost allocation method that has been used on other projects within Reclamation, particularly for projects in which the relative water supply uses change over time. As described in Chapter II of the Draft Report, this technique was used in the 1970 CVP cost allocation study “so that adjustments for future changes in project accomplishments could be more readily accommodated.”</p> <p>The continued use of this technique would be reconsidered in any future cost allocation study along with many other procedural options. It is not necessarily the case that, by itself, the combination of water use functions to the water supply purpose under-allocates costs to that purpose at the expense of power and other project purposes. In fact, if water supply benefits are actually less than the water supply single-purpose alternative cost, then costs may be over-allocated to the water supply purpose, thereby under-allocating costs to other project purposes.</p>
SMUD – 3	<p>Reclamation would consider power benefits at the time that a new cost allocation study is completed. They would be computed over the life of the project and would recognize changing technologies and costs.</p>
SMUD – 4	<p>Evaluation of benefit streams over the life of the project would tend to “average out” any short-term aberrations in power supply costs. The recommendation to continue using the 1975 joint cost allocation factors was based on reasons stated in the Draft Report and not because of the recent shortages in electrical energy or recent changes in fuel prices.</p>

COMMENT	RESPONSE
SMUD – 5	<p>As described in the Draft Report, flood control benefits were not indexed on advice of the Corps of Engineers, the source of the original benefits analysis. Refer to a 1975 letter from the Corps of Engineers, included as Appendix C to the Draft Report, for the rationale to support that recommendation.</p> <p>The 1975 update was undertaken to characterize the benefits at that time. In light of that objective, the single-purpose power alternative was completely reconsidered rather than simply indexing previous estimates.</p>
SMUD – 6	See response to CVPWA – 2.
SMUD – 7	The change recommended by the comment (use of the 1970 joint cost allocation factors) was not an alternative considered separately in the Draft Report. The Contractors' Proposal included the use of 1970 joint cost allocation factors <u>and</u> the creation of the environment as a water use function and was evaluated as a complete alternative in Chapter VI of the Draft Report.
SMUD – 8	Reclamation notes SMUD's support to begin an evaluation of data requirements and agency coordination needed in the development of a new cost allocation study.



Westlands Water District

3130 N. Fresno Street, P.O. Box 8056, Fresno, California 93703-6056, (559) 224-1523, FAX (559) 241-6277

March 26, 2001

United States Bureau of Reclamation
Attn: Mike Finnegan
2800 Cottage Way
Sacramento, CA 95814

Subject: Westlands Water District's Comments on the 2001 CVP Cost Allocation Study Draft Report

Dear Mr. Finnegan:

Westlands Water District appreciates the effort undertaken by the United States Bureau of Reclamation in preparing its 2001 CVP Cost Allocation Study Draft Report (Draft Report). In particular, Westlands appreciates the level of attention that was given by Reclamation to alternatives other than its own. However, we do not concur with several of the conclusions reached by Reclamation as presented in the Draft Report. Westlands requests that you reconsider the Contractors' Proposal on these important points.

Environment is an End Use of Water

Throughout the Draft Report, Reclamation claims the environment is not an end use in the same sense that M&I, irrigation and wildlife refuges are end uses. (See pages ES-3, VI-7 and VI-9.) Reclamation's decision to ignore the end use characteristics of water released for the environment is arbitrary. Reclamation fails to consider the degree to which recent laws have reduced the amount of water delivered to CVP contractors.

In the Draft Report, Reclamation states "[e]nvironmental water released from CVP reservoirs for instream environmental benefits could also be used for other beneficial purposes, including irrigation or M&I uses, farther downstream." (Draft Report p. VI-7, emphasis added.) Reclamation, therefore, recognizes that, in some instances, environmental water released from CVP reservoirs for instream environmental benefits is not available for use for other beneficial purposes downstream. In fact, the current policy implementing CVPIA section 3406(b)(2) provides the United States Fish and Wildlife Service with the ability to direct that water released for the benefit of fish and wildlife not be reddiverted downstream. Such uses of CVP water for the environment are undoubtedly end uses. Indeed, Reclamation's own analyses indicate that average deliveries to south-of-Delta agricultural service contractors have been significantly reduced as a result of water dedicated to environmental purposes under section 3406(b)(2). For this reason, recently negotiated long-term renewal contracts for these contractors have created two categories of water, base and supplemental supply.

WWD-1

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WWD-2

Further, although Reclamation claims costs may only be allocated to end use functions, the 1970 reallocation adopted an allocation to water supply with sub-allocations to water use functions based on proportionate water deliveries to each function. (See Table II-2, page II-6.) These sub-allocations were not necessarily end use functions. Even if Reclamation does not recognize the environment as an end use, the costs associated with that water may still be allocated to the environment through the water supply sub-allocation process.

WWD-3

CVPIA Added Fish and Wildlife as New Project Purpose

In the Draft Report, Reclamation states that "CVPIA reinforced the obligation of the CVP to protect the environment by re-emphasizing the priority of meeting environmental needs, but did not add the environment as a new project purpose." (Draft Report pages ES-4 and VI-8.) This statement is both incorrect and inconsistent with other sections of the Draft Report. On pages I-4 and II-9, the Draft Report recognizes that CVPIA section 3406(a) specifically amended the 1937 Rivers and Harbors Act to include mitigation, protection and restoration of fish and wildlife among the CVP's project purposes. The initial project authorization in 1937 provided that the CVP "shall be used first, for river regulation, improvement of navigation, and flood control; second, for irrigation, and domestic uses; and third, for power" generation. CVPIA amended the previous authorizations of the CVP to include fish and wildlife protection, restoration and mitigation as project purposes with equal priority to irrigation and domestic uses, and fish and wildlife enhancement as a project purpose equal to power generation.

WWD-4

Reclamation contends that "fish and wildlife considerations ... have long been a responsibility of water projects developed by Reclamation ... as a result of the Fish and Wildlife Coordination Act." (Draft Report pages ES-4 and VI-7.) Fish and wildlife considerations may have long been a responsibility of Reclamation, but it was not until 1992 with the passage of the CVPIA that fish and wildlife protection, restoration and mitigation were directed by Congress to receive equal priority as the other project purposes. The Contractors request for the addition of the environment as an additional water use for cost allocation purposes reflects the significant change in the status of environmental uses of CVP water mandated by the CVPIA.

WWD-5

CVPIA Cost Allocation

In rejecting the Contractors' proposal, Reclamation argues that because "Congress was specific in addressing the allocation of costs of refuge water supplies in the CVPIA, but made no mention of associating costs with the dedication of 800,000 acre-feet of water or of allocation of such costs", those costs are completely reimbursable. (Draft Report pages IV-13 and VI-11.) However, Congress' lack of direction regarding costs associated with CVPIA section 3406(b)(2) does not prevent the inclusion of a portion of such costs as non-reimbursable as proposed by the Contractors. Reclamation's interpretation of the CVPIA in the Draft Report fails to consider that CVPIA section 3406(b)(2) directed a reallocation of existing project resources, while the other

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 (continued)

provisions of section 3406(b) and (d) directed the Secretary to develop and implement new programs for the CVP. The costs associated with these programs were considered new costs and, therefore, required Congress' direction as to the allocation of those costs.

WWD-6

Restoration is not Mitigation under CVPIA

On page VI-6 of the Draft Report, Reclamation rejects the Contractors' allocation of the costs associated with the environmental water account as partially reimbursable and partially non-reimbursable. Reclamation argues that because CVPIA section 3406(b)(2) does not state that any of the 800,000 acre-feet of water is dedicated for enhancement, the costs associated with that water should not be partially reimbursable. Reclamation states "the dedicated water is primarily for habitat 'restoration' purposes – a term that suggests mitigation not enhancement." (Draft Report p. VI-6.) Reclamation's argument is predicated upon the assumption that the terms restoration and mitigation are used synonymously in the CVPIA. This assumption is erroneous. If Congress had intended the habitat restoration purposes in CVPIA section 3406(b)(2) to be mitigation actions, Congress would have used the term mitigate rather than restore. In CVPIA sections 3406(b)(4) and (5), Congress directed the Secretary to develop and implement programs to mitigate for fishery impacts associated with certain operations of the CVP. By using the terms restoration and mitigation in different sections of the CVPIA, Congress clearly did not intend the terms to be synonymous. Reclamation's supposition that restoration as used in CVPIA section 3406(b)(2) is more akin to mitigation rather than enhancement contradicts Congressional intent.

Further, in describing the purposes of the CVPIA in section 3402, Congress listed (a) protecting, restoring and enhancing fish, wildlife and associated habitats in the Central Valley and Trinity River Basins, and (b) addressing the impacts of the CVP on fish, wildlife and associated habitats, as separate and distinct purposes of the Act. Therefore, it is evident that when Congress used the term "restoration" in CVPIA, it did not intend that restoration activities would be limited to mitigating the impacts of the CVP on fish and wildlife. Since the passage of CVPIA, Reclamation has implemented restoration projects that did not mitigate impacts to fishery resources resulting from the CVP.

WWD-7

Two recent examples are the restoration activities on Butte Creek and Clear Creek. Reclamation has proposed acquiring water rights to restore the Butte Creek fishery. However, damage to the Butte Creek fishery did not result from impacts of the CVP as there are no CVP contractors on Butte Creek. Reclamation has also proposed removing a dam on Clear Creek to improve fish passage. This restoration action will not mitigate any CVP impacts on the Clear Creek fishery as the dam proposed for removal is not a federal facility. If Congress intended Reclamation to only pursue restoration activities to address impacts to fishery resources caused by the CVP, these two restoration projects would violate the CVPIA.

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Consistency with Past Cost Allocation Methods

WWD-8

Within the Draft Report, Reclamation asserts that continuation of the Existing Allocation would not cause abrupt changes in repayment responsibilities and would allow future changes to be made without having to reverse a change implemented at this time. (Draft Report p. VI-9) However, Reclamation's position fails to acknowledge that the existing allocation, when implemented in 1975, caused an abrupt change in repayment responsibilities. In addition, this allocation is now the "baseline", from which other allocation proposals are now being compared. Undoubtedly, any allocation proposal that attempts to fix the problems associated with the Existing Allocation will not be viewed favorably in this context.

WWD-9

Also set forth in Criterion 4 is the goal of selecting a methodology that is not subject to modification – or reversal – if the changes to the cost allocation method were reversed. Westlands believes that the Existing Allocation would be more susceptible to future modification requirements than the Contractors' Proposal. The Existing Allocation uses assumptions that have subsequently become invalid, and fails to incorporate subsequently authorized projects. These include the omission of a inflation index for flood control benefits, the use of a nuclear power facility as a proxy for the Power Cost Allocation, and the lack of a Cost Allocation for Salinity Control, which is a project purpose authorized by the CVPIA. Other invalid assumptions that center on Environmental Water Allocations are discussed frequently in other sections of this letter. The Existing Allocation is based on a 1975 Interim Study that only fully recalculated the benefits and costs to irrigation contractors. Costs and/or benefits to other project uses were not readjusted. Because of this, the Existing 1975 Allocation may be more inconsistent with future changes than the last consistent Cost Allocation that was completed in 1970.

Adjust CVP Capital Repayment In Response to Changes in Project Operations

WWD-10

In accordance with the specific instructions of CVPIA, 800,000 acre-feet of Project yield is dedicated annually to environmental purposes. The Contractors' Proposal simply adjusts the cost allocation within the existing methodology to allocate costs to new water uses. Within the Draft Report, removal of this environmental water supply is referred to as "a somewhat arbitrary amount" and as "an additional water supply." (Draft Report p. IV-13 and VI-10) In fact, this environmental water is neither "somewhat arbitrary" nor "additional water." This environmental water supply allocation is set at an exact amount for each year, which reaches a maximum of 800,000 acre-feet. Moreover, this environmental water does not represent an additional water supply, but represents water taken away from other water users. No new source of water was created by the CVPIA.

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In closing, Westlands requests that Reclamation make changes to the interim cost allocation methodology based on the Contractors' Proposal included in Appendix A of the Draft Report. If Reclamation does not have the authority to make these changes, then Westlands urges Reclamation to take any required actions, including Congressional approval if necessary, to accomplish this action.

We look forward to working with Reclamation to resolve these matters.

Sincerely,



Dave Ciapponi
Assistant General Manager

COMMENT	RESPONSE
WWD – 1	<p>CVP water deliveries and water rights may be affected by various legal mandates. This owes to the conditional nature of water rights generally and to CVP deliveries in particular. However, the fact that water deliveries are subject to change due to changing legal responsibilities is not justification to reallocate project costs. More specifically, the CVPIA does not direct a reallocation of costs on the basis of dedicating 800,000 acre-feet of water for environmental restoration purposes.</p> <p>The extent to which changes in operations affects accomplishments of the CVP should be identified in light of all project purposes and the conditional nature of CVP water rights and not merely be limited to changes in water supplies available for delivery. A new cost allocation study would have to consider all past and current accomplishments of the CVP and do so in the light of the legal points made in this report.</p>
WWD – 2	<p>The water supply sub-allocation distributes repayment responsibilities for costs allocated to the water supply purpose in proportion to actual and estimated future deliveries to project water users, including irrigation, M&I, and wildlife refuges. It is recognized that return flows from these uses can contribute to stream flows, however because the water can be measured upon delivery, it has been identified as an “end use” in the Draft Report. Such end uses of water are the most reliable and direct approach to sub-allocate water supply costs. If end uses are not utilized to sub-allocate water supply costs, the basis for such a sub-allocation would not be clear. For reasons discussed under Evaluation Criterion 2 – Adjust Repayment to Changes in Project Operations, an annual quantity of 800,000 acre-feet is not considered a justifiable basis for an allocation.</p>
WWD – 3	<p>As noted in the Draft Report, the CVPIA reinforced the obligation of the CVP to protect the environment. Other laws enacted prior to passage of the CVPIA, and many outside of CVP authorizations, have also affected the operation of the CVP.</p> <p>The CVPIA modified the priority of previously established authorized purposes of the CVP, but did not provide direction to re-allocate costs based on that reprioritization. This issue is discussed at length in Chapter VI of the Draft Report under Evaluation Criterion 2 – Adjust Repayment to Changes in Project Operations. That section discusses Reclamation’s long-standing responsibilities to address environmental considerations in the development and operation of the CVP and describes several legislative actions prior to the CVPIA that established fish and wildlife as an authorized purpose of the project. It also addresses the nature of CVP water right obligations, including requirements to meet in-stream and</p>

COMMENT	RESPONSE
	Delta environmental needs before water would be available for diversion to CVP water users.
WWD – 4	See response to WWD – 3
WWD – 5	Given the attention to detail in the allocation of costs for other provisions of Section 3406, Reclamation considers it significant that no reallocation was mentioned with respect to water dedicated by Section 3406(b)(2).
WWD – 6	As discussed in detail in Chapter VI of the Draft Report under Evaluation Criterion 2 – Adjust Repayment to Changes in Project Operations, the CVPIA does not state that any of the 800,000 acre-feet of water is for enhancement. The dedicated water is primarily for habitat “restoration” purposes – a term that suggests mitigation, not enhancement. The Draft Report also points out that Section 3406(b)(3) requires the implementation of a program to acquire additional water to supplement that dedicated by Section 3406(b)(2). This suggests that the CVPIA did not contemplate that the dedicated water would meet all the environmental goals enumerated in Section 3406(b)(2). Since mitigation, protection, and restoration would precede enhancement, and since the CVPIA anticipated that additional water would be needed to mitigate, protect, and restore fish and wildlife and their habitats, it is unlikely that any portion of the 800,000 acre-feet would be used for enhancement.
WWD – 7	Reclamation recognizes that the fisheries and related wildlife resources associated with Central Valley rivers and streams are interconnected. Because of this interconnectedness, in some cases it is considered more effective, in terms of cost and potential impacts to CVP water deliveries, to focus mitigation and restoration actions on streams that are more accessible by target species than those with CVP facilities that block access to upper watershed areas. The Anadromous Fishery Restoration Program, implemented pursuant to the CVPIA, identified several locations on non-CVP controlled streams where actions to restore fishery resources that have been impacted by the construction and long-term operation of CVP facilities appear possible. As noted in the comment, implementation of some recommended actions has begun.

COMMENT	RESPONSE
WWD – 8	<p>Consistency was one of seven evaluation criteria applied to the alternatives considered in the Draft Report. While it is true that any adjustment in the allocation of costs may affect water rates, Reclamation does not find adequate justification within the Contractors' Proposal to support a reallocation of costs and corresponding change in water rates, at this time. If a new cost allocation study is completed and it demonstrates that changes are needed in the allocation of costs, those changes would be made at that time.</p> <p>Reclamation stands by its conclusion that it is better to continue with the existing methodology than implement changes that could be proven inappropriate if and when a new SCRB or other benefits-based cost allocation is completed.</p>
WWD – 9	<p>The treatment of flood control and power benefits in the 1975 allocation was not invalid at the time, given the then-current recommendation of the Corps of Engineers and the state of the power industry. A new cost allocation would need to quantify benefits over the life of the project, considering past years and future years, rather than at a single point in time. This approach would tend to "average out" the effect of short-term conditions, both favorable and unfavorable, for all project purposes.</p>
WWD – 10	<p>See response to comment CVPWA – 2.</p>

— BUREAU OF —
RECLAMATION

[illegible]

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Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Acronyms and Abbreviations

- AF: acre-feet
- BCI: Building Cost Index
- BO: biological opinion
- BPG: Business Practice Guidelines for CVPIA Receipts, Program Accounting, Cost Allocation, and Cost Recovery
- CAISO: California Independent System Operator
- CAS: cost allocation study
- CEC: California Energy Commission
- COA: coordinated operations agreement
- CVP: Central Valley Project
- CVPIA: Central Valley Project Improvement Act
- Delta: San Francisco Bay Delta
- DWR: California Department of Water Resources
- FWPCA: Federal Water Project Recreation Act of 1965
- GDP: gross domestic product
- GWh: gigawatt-hour
- IDC: interest during construction
- km: kilometer(s)
- LCPSIM: least cost planning simulation model
- LTGEN: long-term generation
- M&I: municipal and industrial
- MCD: major cost driver
- MMBtu: million British thermal units
- MW: megawatt
- MWh: megawatt-hour
- O&M: operation and maintenance
- OM&R: operation, maintenance, and replacement
- OMWEM: other municipal water economics model
- P&Gs: Principles and Guidelines

- PG&E: Pacific Gas and Electric
- Pump-Gen: pump-generating
- RAX: replacement, additions, and extraordinary maintenance
- Reclamation: Bureau of Reclamation
- RJE: remaining justifiable expenditure
- ROD: Record of Decision
- RPA: reasonable and prudent alternatives
- SCRB: separable costs-remaining benefits
- SOD: Safety of Dams
- SPA: single-purpose alternative
- SSJRBS: Sacramento and San Joaquin Rivers Basin Study
- SWAP: statewide agricultural production model
- SWP: State Water Project
- SWRCB: State Water Resources Control Board
- TAF: thousand acre-feet
- TBD: to be determined
- USACE: U.S. Army Corps of Engineers; Sacramento District
- USFWS: U.S. Fish and Wildlife Service
- WAPA: Western Area Power Administration
- WRC: Water Resources Council
- XO&M: extraordinary operations and maintenance

Executive Summary

The Central Valley Project (CVP) is a multipurpose water resources project operated by the Bureau of Reclamation (Reclamation) that supplies water to more than 200 long-term water contractors in the Central Valley, the San Francisco Bay Area, and the Santa Clara Valley. The CVP has eight authorized purposes: water supply, power, flood control, water quality, recreation, navigation, fish and wildlife enhancement, and fish and wildlife mitigation.¹

The CVP is comprised of both single-purpose and multipurpose facilities that, in aggregate, serve the purposes of the project authorized by Congress. In accordance with CVP project authorization, the costs for CVP facilities are to be reimbursed by project beneficiaries. A cost allocation study is designed to identify the repayment obligations for project beneficiaries, as well as those non-reimbursable costs assigned to the Federal government.

The current comprehensive cost allocation study used for calculating repayment obligations of CVP contractors was completed in 1975. As new project facilities have been added and water and power uses have changed over time, updates and adjustments have been made to the cost allocation to determine repayment, but a holistic evaluation has not been completed since 1975. This cost allocation study was initiated based on direction from Congress in Public Law (P.L.) 99-546 and the request of water and power contractors for a final CVP cost allocation to firm up account balances and provide sufficient time for financial planning required to ensure full repayment of the CVP costs by 2030. This report provides the background and methodology for the Final Cost Allocation Study (CAS). Reclamation will apply the Final CAS results to current costs and operational conditions that are in effect at the time the annual plant-in-service and operation and maintenance (O&M) allocations are prepared.

Reclamation developed this CVP Final CAS report in consultation with stakeholders and other Federal agencies, including Western Area Power Administration (WAPA), U.S. Army Corps of Engineers (USACE) and U.S. Fish and Wildlife Service (USFWS), which participated in the study through coordination on key issues and analyses. This CVP Final CAS commenced in 2010. Throughout the process, information and updates have been shared with stakeholders through a series of over 30 meetings, workshops, and/or briefings.

Purpose and Need for Study

The purpose of the CVP cost allocation study is to develop allocation factors for the authorized purposes of the CVP. These factors will be used to determine the final repayment obligations for CVP facilities subject to the 2030 repayment. Though Reclamation has updated the allocation annually through the ratesetting process, a holistic cost allocation study has not been completed since 1975. A number of changes have occurred since 1975 that Reclamation and CVP contractors

¹ Fish and wildlife mitigation without specific cost recovery guidance is treated as a joint cost.

agree necessitate re-evaluation. Legislative and regulatory changes in the 1990s made considerable changes to the benefits and authorized purposes of the CVP. This cost allocation study allows Reclamation to consider the new CVP facilities, operational requirements, and benefits that have been authorized since 1975. The final cost allocation presented in this document meets the requirement of a final cost allocation in accordance with Reclamation policy for final cost allocations (PEC P01) and in fulfillment of requirements of Public Law 99-546.

Two Cost Allocation and Two-Period Repayment Approach

Throughout the public meetings held for development of the cost allocation study, water and power stakeholders expressed concern that historic project operations and conditions differed significantly from those expected in the future. Reclamation policy (PEC 01-02) defines the period of analysis for the cost allocation as 100 years beyond the initial date of service. To address both Reclamation policy and stakeholder concerns, Reclamation combined the two separate cost allocations, each with their own respective 100-year period of analysis. This approach addresses the concern over disparate historic and future project operating conditions.

The first period (Period 1) reflects historic conditions as represented in the 1975 CVP cost allocation update (as updated through 2013). The second period (Period 2) reflects projected operations and benefits of the CVP. The two periods are then merged by providing equal weight to each period to create the final cost allocation. The two-period approach has been implemented as a means to account for historic operations of the CVP since it was placed into service through the Period 1 allocation while also allowing for the allocation to account for current/projected project operations through the Period 2 allocation.² The primary focus of this document is the assumptions, costs, and benefits that are used in the Separable Costs-Remaining Benefit (SCRB) cost allocation process is on the Period 2 allocation. The assumptions and methodology used to develop the cost allocation factors for Period 1 are documented in the 1970 CVP Cost Allocation Report as amended, and references to the Period 1 allocation are presented for context only.

Separable Costs-Remaining Benefits Analysis and Results (Period 2)

The SCRB methodology for the cost allocation is used for the Period 2 cost allocation. The SCRB method is considered the most comprehensive and generally preferred method of allocating costs by Reclamation. The SCRB method is based on the goal of identifying and assigning all project costs that provide only one project benefit to the appropriate project purpose (separable costs), and then equitably distributing those costs that provide benefits to more than one purpose (joint costs) among authorized project purposes.

² Note that the allocation of future CVP O&M costs will be based on the Period 2 allocation; thus it will reflect prospective conditions.

Final Cost Allocation (Two-Period Merger)

The CVP plant-in-service (construction) allocation is prepared annually to reflect changes in CVP construction costs and sub-allocation processes that vary year to year. The results of the final cost allocation, which reflects the merger of the Period 1 and Period 2 allocations and sub-allocations, are presented in Table ES-1 and representative of 2013 construction costs. The proposed process for taking the final cost allocation results and applying to annual plant-in-service allocations is described in Chapter 12, *Implementation of the Final Cost Allocation*, of this report.

Table ES-1. Final Cost Allocation (Merge) – Construction (Nominal Dollars)

Type of Cost	Period 1	Period 2	Period 1 (50%)	Period 2 (50%)	Final Cost Allocation (Merge)
Authorized Purposes & Sub-Purposes					
Water Supply – Irrigation	\$1,178,115,286	\$1,068,517,722	\$589,057,643	\$534,258,861	\$1,123,316,504
Water Supply – M&I	\$106,873,582	\$142,321,083	\$53,436,791	\$71,160,542	\$124,597,333
Power – Commercial	\$674,248,511	\$609,891,724	\$337,124,256	\$304,945,862	\$642,070,118
Flood Control	\$139,282,872	\$331,281,759	\$69,641,436	\$165,640,880	\$235,282,316
Water Quality	\$5,607,545	\$89,358,743	\$2,803,773	\$44,679,372	\$47,483,145
Recreation	\$74,998,433	\$5,742,471	\$37,499,217	\$2,871,236	\$40,370,453
Navigation	\$6,423,948	\$0	\$3,211,974	\$0	\$3,211,974
Fish & Wildlife Enhancement ¹	–	–	–	–	–
Non-Reimbursable (Other)					

Type of Cost	Period 1	Period 2	Period 1 (50%)	Period 2 (50%)	Final Cost Allocation (Merge)
Federal	\$258,046,528	\$198,271,873	\$129,023,264	\$99,135,936	\$228,159,200
State	\$250,429,656	\$248,502,699	\$125,214,828	\$124,251,349	\$249,466,177
State & Local	\$4,329,037	\$4,467,386	\$2,164,519	\$2,233,693	\$4,398,212
Repayment Contracts					
Irrigation	\$361,392,079	\$361,392,079	\$180,696,040	\$180,696,040	\$361,392,079
M&I	\$227,656,572	\$227,656,572	\$113,828,286	\$113,828,286	\$227,656,572
Commercial Power	\$8,568,500	\$8,568,500	\$4,274,250	\$4,274,250	\$8,568,500
Facility List Sub-Total	\$3,295,972,549	\$3,295,972,610	\$1,647,986,276	\$1,647,986,307	\$3,295,972,584
Additional Repayment Obligations					
Repayment Obligations – USACE					
Irrigation	\$19,686,165	\$19,686,165	\$9,843,083	\$9,843,083	\$19,686,166
M&I	\$447,937	\$447,937	\$223,969	\$223,969	\$447,938
WAPA Retired Assets					
Irrigation	\$8,464,815	\$8,464,815	\$4,232,408	\$4,232,408	\$8,464,816
M&I	\$1,207,155	\$1,207,155	\$603,578	\$603,578	\$1,207,156
Commercial Power	\$35,649,679	\$35,649,679	\$17,824,840	\$17,824,840	\$35,649,680

Type of Cost	Period 1	Period 2	Period 1 (50%)	Period 2 (50%)	Final Cost Allocation (Merge)
Non-Reimbursable (Federal)	\$213,468	\$213,468	\$106,734	\$106,734	\$213,468
Non-Reimbursable (State)	\$16,115	\$16,115	\$8,058	\$8,058	\$16,116
CA-OR Transmission Project	\$20,282,786	\$20,282,786	\$10,141,393	\$10,141,393	\$20,282,786
Additional Repayment Obligations Sub-Total	\$85,968,120	\$85,968,120	\$42,984,063	\$42,984,063	\$85,968,126
Costs Not Allocated					
Authorized Deferred Use	\$56,875,000	\$56,875,000	\$28,437,500	\$28,437,500	\$56,875,000
CVPIA	\$340,872,120	\$340,872,120	\$170,436,060	\$170,436,060	\$340,872,120
Folsom SOD – Not in Repayment	\$120,512,509	\$120,512,509	\$60,256,255	\$60,256,255	\$120,512,510
Costs Not Allocated Sub-Total	\$518,259,629	\$518,259,629	\$259,129,815	\$259,129,815	\$518,259,629
Total Cost	\$3,900,200,298	\$3,900,200,359	\$1,950,100,154	\$1,950,100,185	\$3,900,200,339

1. Fish and wildlife mitigation costs are allocated to applicable categories for repayment, including non-reimbursable costs.

Repayment Obligations

The summary of estimated repayment obligations for CVP construction costs is presented in Table ES-2. These repayment obligations reflect the construction costs allocated (and sub-allocated) to reimbursable and non-reimbursable purposes in Period 1, Period 2, and the final cost allocation. The breakdown of construction costs allocated across reimbursable sub-purposes is shown Table ES-3.

Table ES-2. Summary of Repayment Obligations – Construction Costs Only (Excludes IDC and OM&R)

Category	Period 1 Value (\$)	Period 1 Percent of Total	Period 2 Value (\$)	Period 2 Percent (%)	Period 2 Change from P1	Final Cost Allocation (Merge) Value (\$)	Final Cost Allocation (Merge) Percent (%)	Final Cost Allocation (Merge) Change from P1
Irrigation	\$1,206,266,266	30.93%	\$1,096,668,702	28.12%	(\$109,597,564)	\$1,151,467,486	29.52%	(\$54,798,780)
M&I	\$108,528,674	2.78%	\$143,976,175	3.69%	\$35,447,501	\$126,252,427	3.24%	\$17,723,753
Commercial Power	\$730,180,976	18.72%	\$665,824,189	17.07%	(\$64,356,787)	\$698,002,584	17.90%	(\$32,178,392)
Repayment Contracts	\$597,617,151	15.32%	\$597,617,151	15.32%	\$0	\$597,617,152	15.32%	\$0
Non-reimbursable	\$739,347,602	18.96%	\$877,854,513	22.51%	\$138,506,911	\$808,601,061	20.73%	\$69,253,459
CVPIA	\$340,872,120	8.74%	\$340,872,120	8.74%	\$0	\$340,872,120	8.74%	\$0
Authorized Deferred Use	\$56,875,000	1.46%	\$56,875,000	1.46%	\$0	\$56,875,000	1.46%	\$0
SOD – Not in Repayment	\$120,512,509	3.09%	\$120,512,509	3.09%	\$0	\$120,512,509	3.09%	\$0
Total	\$3,900,200,298	100.00%	\$3,900,200,359	100.00%	NA	\$3,900,200,339	100.00%	NA

P1 = Period 1

SOD = Safety of Dams

Table ES-3. Reimbursable Costs Distribution – Construction Costs Only (Excludes IDC and OM&R)

Category ¹	Period 1 Value (\$)	Period 1 Percent (%)	Period 2 Value (\$)	Period 2 Percent (%)	Final Cost Allocation (Merge) Value (\$)	Final Cost Allocation (Merge) Percent (%)
Irrigation	\$1,206,266,266	58.99%	\$1,096,668,702	57.52%	\$1,151,467,486	58.28%
M&I	\$108,528,674	5.31%	\$143,976,175	7.55%	\$126,252,427	6.39%
Commercial Power	\$730,180,976	35.71%	\$665,824,189	34.92%	\$698,002,584	35.33%
Total	\$2,044,975,916	100.00%	\$1,906,469,066	100.00%	\$1,975,722,497	100.00%

1. Values presented in this table do not include repayment contracts

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Chapter 1. Introduction

This chapter provides general background on the CVP Final CAS, including an overview of public outreach and involvement.

1.1 Background & Overview

In 2010, Reclamation commenced efforts to complete a new cost allocation for the CVP that updates the costs allocated among the authorized eight purposes of the project:

- Water Supply
- Hydropower
- Flood Control
- Water Quality
- Recreation
- Navigation
- Fish and Wildlife Enhancement
- Fish and Wildlife Mitigation³ (treated as joint cost)

The final cost allocation proposed herein will be utilized for the allocation of repayment obligations for CVP facilities subject to the 2030 repayment requirement. Reclamation conducted the final CAS in consultation with CVP stakeholders and other Federal agencies, including WAPA, USACE and USFWS through coordination on key issues and analyses. Information on the public outreach process is presented in Chapter 1.4.

1.1.1 Two Cost Allocation and Two-Period Repayment Approach

Through the stakeholder engagement process, it was identified that historic project operations and conditions differed significantly from operational conditions expected in the future. Reclamation policy (PEC 01-02) defines the appropriate period of analysis for the cost allocation as 100 years beyond the initial date of service (Reclamation 2015). Combining two separate cost allocations, each

³ The Central Valley Project Improvement Act (CVPIA) added “mitigation, protection, and restoration of fish and wildlife,” hereafter referred to as “fish and wildlife mitigation,” as an authorized purpose of the CVP. Fish and wildlife enhancement can share in joint costs if all requirements of P.L. 89-72 (Federal Water Project Recreation Act) are met, while fish and wildlife mitigation is not a purpose that shares joint costs. Any mitigation not specifically authorized under CVPIA is considered a joint cost that is shared among all other project purposes that can share in joint costs. The repayment of fish and wildlife mitigation costs is addressed in Section 5.11.1.

with a 100-year period of analysis, allows the CAS to include current/future operational conditions in accordance with Reclamation policy.

The first period (Period 1) reflects historic conditions as utilized in the 1975 CVP cost allocation update (as updated through 2013). The second period (Period 2) reflects projected operations and benefits of the CVP⁴. The final cost allocation represents a merger of the two periods (see Chapter 11, *Final Cost Allocation (Two Period Merger)*).

This document focuses on the assumptions, costs, and benefits used in the cost allocation process for period 2. The assumptions and methodology used to develop the cost allocation factors for Period 1 are documented separately, and references to the Period 1 allocation are presented for context only. More detailed information on the two-cost allocation and two-period repayment approach is presented in Chapter 5.1.

1.1.2 Costs to Be Allocated

The costs allocated in the final CAS are the plant-in-service costs for all CVP facilities, which include facilities owned and operated by Reclamation as well as power facilities owned and operated by WAPA that are considered an integral part of the CVP. Reclamation performs the cost allocation for WAPA's CVP facilities; however, WAPA is responsible for recovering costs from its power customers. Chapter 3, *Project Facilities and Costs* provides details on project facilities and costs subject to the final cost allocation. Costs with prescribed allocations are treated as direct assigned costs (see Section 3.3).

1.1.3 Cost Allocation Versus Repayment

The cost allocation process is used to allocate project costs among its authorized purposes. Costs allocated across project purposes are identified as reimbursable and non-reimbursable costs. Reimbursable costs are then assigned to water and power customers for repayment. Non-reimbursable costs are not subject to repayment.

1.2 Purpose and Need for Study

The purpose of the Final CAS is to develop allocation factors which determine the final repayment obligations for each of the CVP customer classes. The allocation factors are used to determine repayment obligations for construction costs of project facilities with repayment targets of 2030. Reclamation policy, Federal legislation⁵, and customer requests require the completion of the final CAS for the CVP.

The final CAS considers changes to the CVP's authorized purposes and operations resulting from changes to legislation and evolving regulatory conditions. The CVP has continually added new

⁴ Period 2 analyses rely on recent information from the Sacramento and San Joaquin Rivers Basin Study (SSJRBS) to assess the potential differences in water supply availability that might occur between a no-climate-change scenario and various other future climate change projections (see Chapter 6.7 *Hydrology Sensitivity Analysis*).

⁵ Public Law 99-546 directed Reclamation to conduct and implement a final cost allocation study of the Central Valley Project.

features based on a financially and operationally integrated project. Re-operation of the CVP with the additions of new features complicates a clearly defined point of substantial completion. Congress and contractors have identified those facilities with repayment in 2030 as what constitutes the basis for the final allocation for the CVP.

1.3 Approval of Cost Allocations

Reclamation policy PEC P01 (Final Cost Allocations) (Reclamation 1995) indicates the Commissioner is authorized to approve the CVP Final CAS.

1.4 Public Outreach & Involvement

This CAS was initiated in 2010, and since that time, project information has been shared with stakeholders through a series of meetings, workshops, briefings, and the project website. An initial public meeting was held on October 1, 2010, to commence the project. Since that time, Reclamation has held over 30 additional meetings to solicit input and present information regarding cost allocation methodology and preliminary results and findings. Those stakeholders who commented on the Draft CVP Final CAS during the public review process (January 2019 – April 2019) were invited to a series of four listening sessions to provide Reclamation with additional context to comments and help prioritize efforts for completion of the study.

Throughout the process, Reclamation received over 700 written comments on the study, and stakeholders have provided input via direct contact with Reclamation staff. Comments were received from over 40 stakeholders including Federal agencies, CVP customers, regional and local governments and agencies, and special interest groups. Efforts were taken to review all stakeholder comments as they were received so that they could be incorporated into the development of the CAS, including the supporting technical analysis. All comments received on the Draft CVP Final CAS have been considered in the CVP Final CAS.

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Chapter 2. Overview of the Central Valley Project

This chapter provides an overview of the CVP, including project operations and related legislation and agreements that are integral to the project. Information on CVP facilities included in the CAS is presented in Chapter 3, *Project Facilities and Costs*.

2.1 Project Overview

The CVP is the largest surface water storage and delivery system in California and the largest irrigation water supply project constructed and operated by Reclamation. Facilities and service areas of the CVP cover a large geographic area and include 35 of the State's 58 counties. The CVP includes 20 reservoirs, with a combined storage capacity of nearly 12 million acre-feet; 8 power plants and 2 pumping-generating plants, with a combined capacity of approximately 2 million kilowatts; 2 pumping plants; and approximately 500 miles of major canals and aqueducts. The CVP supplies water to more than 200 long-term water contractors in the Central Valley, the San Francisco Bay Area, and the Santa Clara Valley.

Historically, approximately 90 percent of the water delivered by the CVP has been for agricultural uses. At present, increasing quantities of water are being provided to municipal customers, including the cities of Redding, Sacramento, Folsom, Tracy, and Fresno; most of Santa Clara County; and the northeastern portion of Contra Costa County.

The CVP has eight authorized purposes. Congress authorized the CVP to serve water supply, power, flood control, water quality, recreation, navigation, fish and wildlife enhancement, and fish and wildlife mitigation, with portions of the costs for CVP facilities to be reimbursed by the water and power users. Additional information on the authorized purposes of the CVP is presented in Chapter 5.7.

2.2 Project Area

The CVP is authorized as a single financially and operationally integrated multipurpose water supply project, providing water storage both north and south of the Sacramento-San Joaquin River/San Francisco Bay Delta (Delta). As shown in Figure 2-1, major CVP dams and reservoirs are located on the Trinity, Sacramento, American, Stanislaus, and San Joaquin Rivers. CVP water supplies north of the Delta are controlled by Shasta and Folsom Dams on the Sacramento and American Rivers, respectively. Water from the Trinity River is stored, re-regulated, and diverted through a system of dams, reservoirs, tunnels, and power plants to the Sacramento River to supplement the supply developed by Shasta Reservoir.

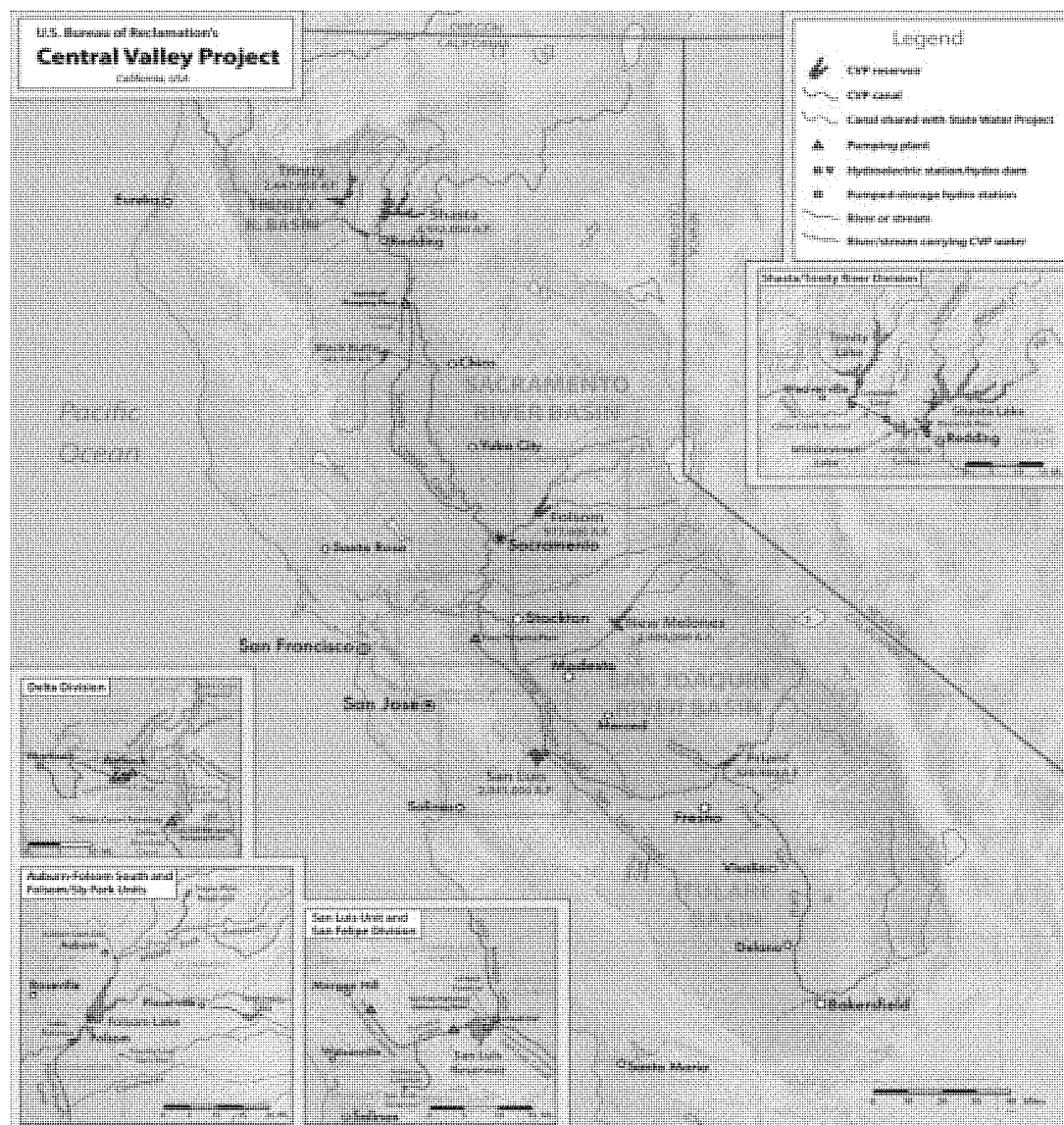


Figure 2-1. CVP Project Area

2.3 Project Development and Authorization

The CVP resulted from long-term interaction among State, Federal, and private parties sharing a common interest in developing California's water resources. The CVP was authorized through a series of legislative acts, beginning with the Rivers and Harbors Act of 1935, which authorized construction of initial features on the Sacramento and San Joaquin Rivers and in the Delta by the USACE. The River and Harbors Act of August 26, 1937, reauthorized the CVP for construction under provisions of Federal reclamation laws by the Secretary of the Interior.

Construction of the first major CVP facility, Shasta Dam, began in 1938. Successive congressional acts authorized additional facilities based on geographical proximity and purposes served. The final dam and reservoir, New Melones, was officially transferred to Reclamation from the USACE by P.L. 87-874 in November 1979.

2.4 Project Facilities & Operations

Extending 400 miles through central California, the CVP is a complex, multipurpose network of dams, reservoirs, canals, hydroelectric power plants, and other facilities. The CVP provides flood protection for the Central Valley and supplies irrigation water throughout the valley thereby supporting California's agricultural economy. It also supplies municipal and industrial water to major urban centers in the greater Sacramento and San Francisco Bay areas, as well as producing electrical power and offering various recreational opportunities. In addition, the project provides water to restore and protect fish and wildlife, and to enhance water quality.

Long-term contracts for CVP water, in total, exceed 9 million acre-feet per year. The CVP has long-term agreements to supply water to more than 200 contractors in 29 of California's 58 counties. Deliveries by the CVP include providing an annual average of 5 million acre-feet of water for farms; 600,000 acre-feet of water for municipal and industrial (M&I) uses (enough water to supply about 2.5 million people for a year); and water for wildlife refuges and maintaining water quality in the Sacramento-San Joaquin Delta. The CVP dedicates 800,000 acre-feet per year to fish and wildlife and their habitat and 410,000 acre-feet to State and Federal wildlife refuges and wetlands, pursuant to the Central Valley Project Improvement Act (CVPIA).

Overall, CVP operations are coordinated to obtain maximum yields and to deliver water into the main river channels and canals of the project in the most efficient and economical manner. Project operations are implemented in conjunction with State Water Project (SWP) operations based on the Coordinated Operations Agreement (COA), the Bay-Delta Accord, and other agreements. Irrigation and M&I water is delivered to project contractors from the main canals in accordance with long-term contracts negotiated with irrigation districts and other local organizations. Distribution of water from the main canals to the individual users is the responsibility of the local districts, which use distribution systems comprised of lateral canals and pipelines to convey water to individual farms and municipalities.

2.5 Key CVP Agreements and Legislation

There are a wide range of laws and agreements that affect CVP and SWP operations. Throughout the life of the CVP, the allocation of its costs has been affected directly or indirectly by Federal legislation, continuing up to the recent specific allocation of costs of certain actions and facilities mandated by the CVPIA. This has meant that different rules may apply to different groups of CVP facilities or facilities built during different periods of time. The current CVP cost allocation study must be understood in the context of these changing mandates and application of different procedures to different sets of CVP facilities. It is also important to note that the existing CVP water

ratesetting process, dependent as it is on the allocation of CVP costs, has relied on this amalgamation of practices. The discussion below highlights several key provisions that play a critical role in CVP operations that in turn affect project costs and benefits and ultimately the allocation of project costs.

2.5.1 Coordinated Operations Agreement

In 1986, Reclamation and the State entered into a COA that described how the CVP and the SWP are to be operated in a coordinated manner to jointly meet Delta salinity control and water quality standards as defined by the State Water Resources Control Board (SWRCB). The COA included many provisions concerning the joint operations of CVP and SWP, including methods to ensure that water demands in specific areas north of the Delta and in the Delta are met prior to exporting water to areas south of the Delta. In addition, COA provisions defined how much water the CVP and the SWP can export when the Delta conditions allow exports.

Title I of P.L. 99-546 directed the Secretary to operate the CVP in conformity with State water quality standards for the Delta. The act specified that costs associated with providing CVP water supplies for salinity control and complying with State water quality standards be allocated among project purposes and reimbursed in accordance with existing Reclamation law and policy.

2.5.2 State Water Resources Control Board Water Quality Requirements

The CVP and SWP are also operated pursuant to SWRCB decisions and orders related to water rights permits for the CVP and SWP. The SWRCB is responsible for setting water quality standards governing the operations of the CVP and SWP for the San Francisco Bay/Sacramento-San Joaquin Delta and Estuary. Under P.L. 99-546, both projects were authorized to operate in close coordination pursuant to the COA, which also required the CVP and SWP to share responsibility to meet the SWRCB Water Rights Decision 1485 (D-1485) water quality standards. In 1999, the SWRCB adopted Water Rights Decision 1641 (D-1641), amending certain water quality terms and conditions. Meeting D-1641 water quality standards requires exceeding the Delta outflow standards set by D-1485.

2.5.3 Central Valley Project Improvement Act

On October 30, 1992, the President signed into law the Reclamation Projects Authorization and Adjustment Act of 1992 (P.L. 102-575) that included Title 34, the CVPIA. The CVPIA amended the Act of August 26, 1937, the basic authorizing legislation for the CVP, to include fish and wildlife protection, restoration, and mitigation as project purposes having equal priority with irrigation and domestic uses, and fish and wildlife enhancement as a project purpose equal to power generation.

The CVPIA identified a number of specific measures to meet these new purposes. It also directed the Secretary of the Interior to operate the CVP consistent with these purposes, to meet the Federal trust responsibilities to protect the fishery resources of affected federally recognized Indian tribes, to meet all requirements of Federal and State law, and to achieve a reasonable balance among competing demands for CVP water.

Many of the provisions included in the CVPIA identified specific measures intended to improve fishery conditions in Central Valley rivers and the Delta. In many cases, the provisions also provided specific cost-sharing and allocation criteria. As a result, the allocation of costs for CVPIA-mandated actions was directed by Congress, with Congress specifying the percentage of costs to be allocated to water and power users, the Federal government, and the State. Relevant examples are the actions specified in Section 3406(b)(4)(23) and refuge water supplies addressed in Section 3406(d).

The CVPIA also contains requirements that could affect CVP water availability and use without directing that a new cost allocation be undertaken or providing a cost allocation formula. Section 3406(b)(2) of the CVPIA directed the Secretary to dedicate and manage 800,000 acre-feet of CVP yield for the primary purpose of implementing the fish, wildlife, and restoration purposes of the act, to assist the State in its efforts to protect Bay/Delta waters, and to help meet other legally imposed obligations on the CVP, including but not limited to additional obligations under the Federal Endangered Species Act (ESA). The dedication of this water reduced the capability of the CVP to deliver contracted amounts of water to M&I and irrigation contractors. Congress neither directed that a new cost allocation study be undertaken as a result of likely reductions in water contract deliveries nor provided a cost allocation formula related to the dedicated water. Additional information on the treatment of CVPIA costs in the final CAS is presented in Chapter 5.11.

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Chapter 3. Project Facilities and Costs

This chapter presents the project facilities and associated costs included in the final CAS. Most of the facilities and costs are subject to the SCRB cost allocation methodology utilized in this study (described in detail in Chapter 4, Cost Allocation Methodology). Facility costs that are not included in the SCRB analysis but remain part of the overall CAS include direct assigned costs, repayment contracts, additional repayment obligations, and costs not allocated. These costs are accounted for in the final CAS summary tables presented in Chapter 10, *Cost Allocation Results (Period 2)* and Chapter 11, *Final Cost Allocation (Two Period Merger)*. Unless noted otherwise, the costs referenced in this chapter represent CVP plant-in-service (construction) costs only. Chapter 9, *Cost Estimates* outlines cost estimates for interest during construction (IDC) and operation, maintenance, and replacement (OM&R) necessary for performing the SCRB analysis.

3.1 Project Facilities (CAS Facility List)

The CAS covers most CVP facilities that are considered plant-in-service based on Schedule 1 of the 2013 CVP Financial Statement (see the CAS Facility List Attachment at the end of this report). Facilities with prescribed repayment obligations are included in the CAS as direct assigned costs. Facilities that support project benefits and do not have prescribed repayment obligations are allocated through the SCRB analysis. The cost of CVP facilities owned and operated by WAPA and identified as financially and operationally integrated with the CVP are included in the CAS.

The CAS allocates costs of project facilities in the following CVP divisions/units:

- Shasta and Trinity River Divisions
- Friant Division
- Sacramento River Division
- American River Division
- Delta Division
- San Felipe Division
- West San Joaquin Division, San Luis Unit
- Stanislaus (East Side) Division

3.2 Adjustments to the CVP Financial Statement

The CAS allocates plant-in-service costs shown in Schedule No. 1 of the 2013 CVP Financial Statement, which represent the costs as of September 30, 2013 (Reclamation 2013a). Several modifications to the 2013 Financial Statements are necessary to exclude costs that are not allocated through the CAS.

Facilities Not Considered Plant-In-Service: Schedule No. 1 of the CVP Financial Statement include costs associated with construction in abeyance, general construction, and O&M construction. These are costs expended, but not yet placed into plant-in-service. Costs for facilities not yet placed in service are not allocated for repayment because they do not yet provide benefits to the project.

Land and Land Rights: Land and land rights (LLR) costs presented in Schedule No. 1 are the value of the land on which project facilities are constructed. LLR costs for facilities that are plant-in-service are included in the construction costs of each appurtenant facility and are allocated in the CAS. If a facility has not yet been placed in plant-in-service, the associated LLR costs for the facility are not allocated in the CAS.

Reimbursable Interest During Construction: IDC is an allowance for earnings foregone on funds used to construct the facility. IDC is included in the CAS for facilities placed into plant-in-service that are subject to the SCRB analysis. The reimbursable IDC costs for facilities in plant-in-service included in Schedule No. 1 have been removed before the SCRB analysis was performed because the SCRB relies on an estimate of total IDC for the entire facility cost.

Depreciation Expense: All depreciation expenses are excluded from the CAS study because the allocation of construction costs and repayment requirements apply to original cost, not costs reduced through depreciation.

Other Costs Excluded: Other Schedule No. 1 values excluded from the CAS are associated with equipment, information technology software, and amortization.

Transferred Title Facilities: The construction cost of Coleman National Fish Hatchery is removed from the plant-in-service value for Shasta Dam and Reservoir shown on Schedule No. 1 of the 2013 Financial Statement. Title to the hatchery was transferred from Reclamation to USFWS so the construction cost of the hatchery is excluded from the CAS.

Operation, Maintenance, and Replacement (OM&R) Costs: There are costs referred to as extraordinary operations and maintenance (EOM) that are included as plant-in-service in Schedule No. 1 but are repaid to Reclamation as annual O&M costs. EOM costs are excluded from the SCRB analysis to avoid double counting with estimated OM&R costs presented in Chapter 9, *Cost Estimates*.

Financial System Reconciliation: In 2013, Reclamation adopted a new financial reporting system known as the Financial and Business Management System (FBMS) and discontinued use of the Federal Financial System (FFS). In the process, the FBMS system reclassified some assets formerly categorized as plant-in-service to buildings. For the CAS, the cost of these buildings is included as part of the plant-in-service costs being allocated.

3.3 Direct Assigned Costs

CVP facility repayment obligations directly defined by legislation, agreement, or contract are not included in the SCRB analysis. Facility costs (or portions thereof) that are directly assigned are added to the applicable repayment category after the SCRB process is complete. Adding together the costs allocated by the SCRB process and the direct assigned costs provides the total CVP cost allocated, which represents a significant portion of the total repayment obligation of CVP contractors. In total, direct assigned costs, including IDC, accounted for in the CAS are \$502,712,342.⁶

The following facility or program costs that are designated as direct assigned costs include:

- **State Share of San Luis Unit Construction** (\$248,310,255)
 - The State's share of costs of construction of the San Luis Unit is removed from the allocation process because only Federal costs are being allocated. P.L. 86-488 authorized construction of the San Luis Unit of the CVP and provided for the sharing of costs with the State of California.
- **Archaeological, Cultural, and Historical** (\$4,245,665)
 - The costs associated with archaeological, cultural, and historic investigations and documentation are directly assigned as Federal non-reimbursable. P.L. 93-291 provides that up to 1 percent of project construction costs can be spent on archaeological, cultural, and historical investigations and cataloging.
- **Fish and Wildlife, Nimbus Dam** (\$40,000)
 - Prior to completion of the fish hatchery, additional expenses were incurred during construction of Nimbus Dam to facilitate fish passage. The cost over-run is directly assigned as non-reimbursable fish and wildlife costs.
- **Highway Improvement** (\$14,663,318)
 - Highway improvements at New Melones Dam and San Luis Dam are directly assigned to Federal non-reimbursable. P.L. 87-874 provides that the cost of replacing highways with an improved version as part of a project is non-reimbursable.
- **Safety, Security, and Law Enforcement** (\$25,476,432)
 - Safety, Security, and Law Enforcement activities at the Folsom Unit, San Felipe Division, San Luis Unit, and the Shasta Unit are directly assigned as Federal non-reimbursable pursuant to P.L. 110-229.

⁶ This value includes IDC that is direct assigned. Direct assigned IDC costs are not reflected in the CAS results presented in Chapters 10 and 11 or the CAS Facility List Attachment, which focus on CVP construction costs.

- **Kesterson Reservoir Clean-up Program** (\$6,800,000)
 - The costs of clean-up activities at Kesterson Reservoir resulting from selenium contamination from San Luis Drain is directly assigned as Federal non-reimbursable. Language in Reclamation's annual appropriations bill provides that \$6,800,000 of the cost to clean up is considered Federal non-reimbursable expense.
- **Capitalized Interest During Construction:** (\$31,112,020)
 - **New Melones Unit:** IDC costs associated with the New Melones Unit are directly assigned as Federal non-reimbursable. When New Melones Dam was transferred to Reclamation by the USACE, \$27,012,918 was included as capitalized IDC allocated to irrigation. Reclamation does not charge IDC on irrigation costs so the IDC was classified as non-reimbursable.
 - **San Felipe Division:** IDC costs associated with the San Felipe Division are directly assigned as Federal non-reimbursable. \$4,099,102 of IDC calculated against the M&I portion of the construction cost of the San Felipe Division is classified as Federal non-reimbursable pursuant to an agreement with division contractors.
- **San Felipe Division Non-Reimbursable Construction Costs** (\$32,678,447)
 - Ten percent of construction cost of the San Felipe Division is classified as Federal non-reimbursable pursuant to an agreement with division contractors. The non-reimbursable portion of construction costs is based on anticipated development of recreation and fish and wildlife facilities. Accordingly, these costs are assigned and split equally among non-reimbursable recreation and fish and wildlife purposes.
- **American River Pumping Station** (\$3,589,560)
 - The cost of restoring the American River Pumping Station for the Placer County Water Agency is a Federal non-reimbursable cost pursuant to P.L. 110-229.
- **Safety of Dams (SOD) Program** (\$31,810,865)⁷
 - SOD costs are associated with the following facilities: Folsom Dam and Reservoir (\$26,385,404),⁸ Little Panoche Creek Detention Dam (\$6,536), Los Banos Creek Detention Dam and Reservoir (\$10,784), and O'Neill Dam Forebay and Waterway (\$5,408,141). Eighty-five percent of SOD costs are Federal non-reimbursable and 15 percent are reimbursable pursuant to P.L. 98-404.
- **Fish and Wildlife Activities** (\$103,829,746)
 - Certain fish and wildlife facilities authorized separately from CVPIA have been directly assigned as reimbursable or non-reimbursable through legislation or agreement (\$103,829,746).
 - Fish and wildlife costs that are not authorized under CVPIA and not direct assigned are considered mitigation and are treated as joint costs allocated across all project purposes

⁷ This value includes both reimbursable and non-reimbursable SOD costs.

⁸ This value excludes Folsom Dam SOD costs that are not in repayment (refer to Section 3.6).

by the SCRB process (\$28,495,676). Refer to Section 5.11, *Mitigation Costs*, and the CAS Facility List Attachment for additional details.

- **Recreation Cost Sharing (\$156,034)**
 - Reclamation maintains cost sharing agreements on two recreation facilities in the CVP – Lake Woollomes Recreation Facilities and San Justo Reservoir Recreation Facilities. The cost sharing agreements for these two facilities divide the obligation evenly between Federal non-reimbursable (as part of the recreation purpose) and State/local non-reimbursable. Accordingly, the cost of Lake Woollomes recreation facilities (\$54,500) is allocated 50 percent to Federal non-reimbursable and 50 percent is direct assigned to local/State non-reimbursable pursuant to P.L. 89-72, Sec. 7(a). The cost of San Justo Reservoir recreation facilities (\$257,568) is allocated 50 percent to Federal non-reimbursable and 50 percent is direct assigned to local/State non-reimbursable per Cooperative Agreement No. 4-FC-01430.

3.4 Defined Repayment Obligations

Defined repayment obligations of the CVP include repayment contracts between contractors and Reclamation and WAPA. These costs are excluded from the SCRB analysis.

- **Reclamation Distribution System Repayment Contracts (\$624,827,547)**

Water distribution system costs subject to Reclamation repayment contracts are assigned directly to the applicable contractors, rather than through the CAS process. The costs of distribution systems that are not owned or financed by Reclamation are not within the scope of the CAS.

- **Repayment Contracts, WAPA (\$8,980,301)**

Similar to repayments contracts for Reclamation facilities, WAPA has incurred costs that are directly repayable by a particular entity pursuant to contract and do not affect market power rates. The contract is with Lawrence Livermore Labs (Contract 89-SA-90001) in the amount of \$8,980,301.

3.5 Additional Repayment Obligations

The final CAS accounts for costs that are not subject to the cost allocation but are included either as part of the water ratesetting process or the repayment obligation of commercial power. Accordingly, these costs are accounted for in Chapter 11, *Final Cost Allocation (Two Period Merger)*, in an effort to provide a comprehensive overview of existing and future repayment obligations of project beneficiaries.

The following represents the additional costs included in the CVP water ratesetting process, and in the calculation of the repayment obligations for commercial power interests administered by WAPA.

- **Repayment Obligations Assumed (USACE).** Reclamation is responsible for repayment of costs for several projects constructed by USACE, including Hidden Reservoir on the Fresno River, Buchanan Reservoir on the Chowchilla River, and the Black Butte project on Stony Creek. Hidden Reservoir and Buchanan Reservoir were authorized by the Flood Control Act of 1962, and the repayment obligations have been integrated into Reclamation's ratesetting process where costs are allocated to the water supply purpose and distributed in total to the irrigation sub-purpose. The Black Butte project was authorized by the Flood Control Act of 1944, and subsequently P.L. 91-502 provided that the project would be financially integrated with the CVP. The water supply costs of the Black Butte project are sub-allocated to the irrigation and M&I sub-purposes based on relative water deliveries. Title (ownership) of all three projects remains with USACE. The total value of repayment obligations assumed from USACE for the three projects is \$20,134,102.
- **WAPA Retired Assets.** Repayment obligations for commercial power include WAPA retired assets. The costs of retired assets are not included in the SCRB analysis because when a unit is replaced the cost is "removed" from Schedule 1 in WAPA's Results of Operation and the new cost is included instead. Therefore, to include both the retired asset cost and replacement cost in the SCRB analysis would count the value of the capital twice. However, from a cost recovery perspective, WAPA needs to recover both the original cost and the replacement cost. Therefore, the value of retired assets is included for cost recovery purposes. The total value of WAPA retired assets is \$45,551,232.
- **California-Oregon Transmission Project (WAPA).** The SCRB analysis excludes the cost of the California-Oregon Transmission Project (COTP) because it is not directly connected to any CVP hydropower generation resources, nor used to move CVP hydropower to CVP preference power customers. However, the cost of the COTP (\$22,135,133) represents a repayment obligation of commercial power.

3.6 Costs Not Allocated

The costs of facilities that have not yet entered repayment, facilities that have authorized deferred use, and CVPIA facilities are not allocated in the CAS, but a portion of these costs represent a future obligation of CVP water and power contractors. The results of the CAS will be used to allocate these costs at some future point in time where applicable.

- **Facilities Not Yet in Repayment:**

Folsom Safety of Dams: The Folsom Dam Safety and Flood Damage Reduction Joint Federal Project is a collaborative effort by Reclamation and USACE to address the dam safety hydrologic risk at the Folsom Facility (including Mormon Island Auxiliary Dam and several dikes) and improve flood protection. The Folsom project is included in plant-in-service in Schedule No. 1, but the costs are not allocated because the project has not yet entered repayment. The project took place over multiple years and work was completed in phases. As phases are completed, they are transferred from work in progress to plant-in-service. An agreement was reached between Reclamation and CVP

water contractors that the reimbursable 15 percent of project construction costs would not be placed into repayment status until 2021. The total value of Folsom SOD costs not in repayment is \$120,755,310⁹. The reimbursable costs will be allocated in accordance with the final cost allocation when it is completed, as directed by P.L. 99-546.

Repayment will begin the year following substantial completion of construction of each SOD modification and be completed within 50 years as provided by the SOD Act. Note that these costs are not reflected in the CAS Facility List Attachment.

- **Authorized Deferred Use:**
 - **Folsom South Canal and Tehama-Colusa Canal:** P.L. 89-161 and P.L. 90-65 authorized construction of extra conveyance capacity in the Folsom South Canal and Tehama-Colusa Canal, respectively, to provide for an expanded service area which could receive project water, if necessary. If the additional irrigation service materializes, the cost of the additional capacity – \$2,425,000 for Folsom South Canal and \$54,450,000 for Tehama-Colusa Canal – is to be repaid by project beneficiaries in accordance with applicable cost allocation procedures. If not, the authorized deferred use costs would be repaid from revenues of the CVP. Specific procedures consistent with existing law and Reclamation policy will be developed for the repayment of authorized deferred use costs prior to 2030. In the interim, the construction costs of the additional capacity are deferred and not being recovered through water rates.
- **CVPIA Facilities:** The costs of CVPIA facilities are not allocated through the CAS. The repayment obligations for CVPIA facility costs are directly assigned to reimbursable and non-reimbursable obligations by statute. The sub-allocation of reimbursable costs between Irrigation, M&I, and commercial power users will be determined through a separate process based on the results of the CAS.

⁹ This value represents costs in the 2013 CVP financial statements. The estimated total Folsom Facility SOD modification cost is \$507,000,000, of which 15 percent (\$76,050,000) is reimbursable.

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Chapter 4. Cost Allocation Methodology

This chapter discusses cost allocation principles and presents the process for implementing the SCRB methodology. Chapter 10 of this report, *Cost Allocation Results (Period 2)*, presents the application of the SCRB process for the CAS, including the resulting allocation of CVP costs for the Period 2 allocation.

4.1 Cost Allocation Background and Objectives

Early efforts in the field of water resources development consisted of simple, single-purpose projects, but the trend soon shifted toward increasingly complex, multipurpose projects because one large project is typically a more efficient means of providing benefits across a wide geographic area and range than constructing multiple single-purpose projects. As a result, techniques have been developed for the distribution of the costs of facilities serving more than one project purpose.

Cost allocation is concerned with the distribution or assignment of the total costs of a multipurpose project among its authorized purposes according to the principles of economic efficiency and equity. Once costs are initially allocated to the appropriate purpose, they are assigned to project beneficiaries as reimbursable costs and to the appropriate Federal or State governments as non-reimbursable costs. For the CVP CAS, reimbursable costs are the costs that are repaid to the government through some form of upfront cost sharing, repayment (including designations through public laws), or other financial agreements. Specific legislation and Reclamation policy establish the framework for designating costs as reimbursable, non-reimbursable, or partially reimbursable for a given project.

Generally, cost allocations are first performed during project planning (before construction begins) to give beneficiaries an estimate of their repayment responsibility and to determine whether the project is financially feasible. Interim cost allocations are needed for projects with any substantive changes (additions, legislation, and other factors), including construction of facilities over a longer period of time placed into service in stages. When construction of a project is determined to be substantially complete, a final cost allocation is required for the purpose of repayment. At that point, most post-authorization planning, design, construction, and IDC costs are known and OM&R costs are more clearly defined.

The CVP is a complex multipurpose project composed of both single-purpose and multipurpose facilities. The objective of the CVP CAS is to identify responsibilities for repayment of reimbursable costs by distributing the costs of multipurpose project facilities among the authorized purposes served by the CVP. Costs of single-purpose facilities, such as canals to provide M&I water and irrigation water, are directly assigned to the purposes they serve. Costs of multipurpose facilities, such as dams and reservoirs that are designed to serve more than one authorized purpose, are allocated to the appropriate authorized purposes through the SCRB allocation technique.

4.2 Separable Costs-Remaining Benefits Methodology

The SCRB method for allocating costs is Reclamation's preferred approach for allocating costs amongst multipurpose projects. Reclamation has determined the SCRB methodology to be sufficiently comprehensive, particularly for projects where separable costs greatly exceed specific costs for any or all purposes.¹⁰

The SCRB method is based on the goal of identifying and allocating all project costs to authorized purposes of the project. First, the SCRB approach looks to allocate the separable costs, which are the costs incurred that only support one authorized purpose. Once all separable costs have been defined, the SCRB approach allocates the costs that remain, which are referred to as joint costs. Joint costs are the remaining facility costs that serve multiple authorized purposes.

The SCRB process distributes joint costs that provide benefits to more than one purpose among all authorized purposes served by that facility. Joint costs are distributed among the appropriate authorized purposes proportional to the benefits received by each authorized purpose from the facility. Benefits, as outlined in Reclamation's Directives and Standards for Project Cost Allocations (PEC 01-02) and pursuant to the Federal Principles and Guidelines (P&Gs) (WRC 1983), are measured from a national perspective as opposed to a localized increase or improvement to society.¹¹

4.2.1 Steps in the SCRB Process

The 9 steps in performing a SCRB cost allocation for a multipurpose project are listed below.

- Step 1:** Determine total project costs to be allocated.
- Step 2:** Estimate benefits produced by each authorized purpose.
- Step 3:** Estimate the single-purpose alternative (SPA) cost for each authorized purpose.
- Step 4:** Determine the Justifiable Expenditure for each authorized purpose.
- Step 5:** Estimate Separable Costs
 - a. Estimate the Omitted Purpose Project Cost for each authorized purpose.
 - b. Estimate the Separable Costs for each authorized purpose.
- Step 6:** Determine the Remaining Justifiable Expenditure for each purpose.
- Step 7:** Determine the Joint Cost Factors for each authorized purpose.

¹⁰ The Reclamation report, "Central Valley Project Cost Allocation Study," May 2001, closely examined various cost allocation methods and at that time recommended that the existing method would remain in place; the 1975 allocation (with interim updates) was conducted using the SCRB method.

¹¹ Although the 1983 P&Gs have been superseded by the current Principles, Requirements, and Guidelines (PR&Gs), the requirements regarding Reclamation and its approach for cost allocations remain unchanged.

Step 8: Allocate Joint Costs

- a. Calculate Total Joint Costs to be allocated among all project purposes.
- b. Allocate joint costs between each authorized purpose.

Step 9: Calculate total costs allocated to each authorized purpose.

Step 1: Determine total project costs to be allocated. Total plant-in-service project costs are gathered or estimated across all cost categories and then converted to a common price level¹² for consistency and comparative purposes.¹³ Total costs are the sum of construction (includes planning, design, and construction), IDC, and the capitalized value of annual OM&R costs.

Step 2: Estimate benefits produced by each authorized project. Benefits represent the increase in the value of the national output of goods and services associated with each purpose derived from the provision of project water. Benefits are estimated annually across the entire period of analysis. Annual benefits for each purpose may be estimated either as an average or individually for each year. Average annual benefits are based on historical or estimated future hydrology by water year type. Applying benefits by water year type to associated water year probabilities results in an expected average annual value. Like annual OM&R costs, annual benefits are assumed to occur each year of the period of analysis, thereby requiring discounting into a present value using a predetermined interest rate.

Step 3: Estimate the SPA Cost for each authorized purpose. The SPA Cost for each purpose reflects the costs of building and operating a theoretical single-purpose Federal project that would provide the same level of benefits, by purpose, as the multipurpose project. The SPA cost includes construction, IDC, and OM&R costs. A SPA may be located at the multipurpose project site, or at other sites, and several SPAs for different purposes may occupy the same site. Although a SPA may be a different size or an entirely different physical plan, it must be capable of producing the same level of benefits for any given purpose. Because each SPA is designed to support a single purpose only, the size of the SPA may be scaled down from the multipurpose project.

Step 4: Determine the Justifiable Expenditure for each authorized purpose. Justifiable Expenditure is the maximum amount of costs to be allocated to an authorized purpose. Justifiable Expenditure is determined by the lesser of the benefits produced by the authorized purpose or the SPA costs. Justifiable Expenditure is used to allocate separable costs, because it is assumed that a given purpose should not be assigned more costs than either 1) the value of the benefits the project generates for that purpose or 2) the costs of building a project exclusively for that purpose.

Step 5a: Estimate the Omitted Purpose Project Cost for each authorized purpose. Estimating the cost of the multipurpose project with each authorized purpose omitted allows for an estimate of the incremental cost of including each authorized purpose in the multipurpose project. The intent is to identify those costs that are attributable to a single purpose (separable costs) and those that

¹² The time value of money suggests that a dollar obtained today would be more valuable than a dollar obtained a number of years from now because today's dollar could be invested and earn interest. The foregone interest reflects the opportunity cost associated with the future year dollar. For this reason, cost and benefit dollar values obtained at various points in the future must be discounted (decreased) to a common year present dollar value.

¹³ Plant-in-service is the date the project or facility was effectively placed into service.

cannot be attributed to a single project purpose (joint costs). The total cost of the multipurpose project is estimated for the project including all authorized purposes, then a series of estimates of the same multipurpose project with each authorized purpose omitted (omitted purpose projects) is made. Each omitted purpose project cost estimate is created by designing a project with the same benefits for all authorized purposes of the multipurpose project other than the purpose being omitted. The benefits for the omitted purpose are assumed zero.

Step 5b: Estimate the Separable Costs for each authorized purpose. Separable costs for each purpose equal the difference between the total costs of the multipurpose project (Step 1) and the estimated hypothetical total costs of the multipurpose project with the purpose removed (Step 5a). Separable costs for each authorized purpose include the costs of single-purpose facilities (i.e., specific costs) plus a portion of joint costs directly attributed to that purpose, referred to as separable joint costs.¹⁴ Separable costs constitute the minimum costs that can be assigned to any given purpose.

Step 6: Determine the Remaining Justifiable Expenditure for each purpose. The remaining justifiable expenditure for each purpose equals the difference between the justifiable expenditure estimated in Step 4 and the separable cost estimated in Step 5b. Remaining justifiable expenditure provides the basis for allocating the joint costs.

Step 7: Determine the Joint Cost Factors for each authorized purpose. The Joint Cost factor for each authorized purpose is calculated by dividing the remaining justifiable expenditures for each purpose by the total remaining justifiable expenditure.

Step 8a: Calculate the Total Joint Costs to be allocated among all project purposes. Total Joint Costs is the difference between the sum of the Separable Costs for all authorized purposes (developed in Step 5b) and the Total Project Costs (developed in Step 1). Joint Costs are the costs of the multipurpose project that are not assignable through the estimation of Separable Costs.

Step 8b: Allocate joint costs between each authorized purpose. The Joint Cost Factors calculated in Step 7 are used to distribute the total remaining joint costs among the authorized purposes of the project. The Joint Cost Factor for each authorized purpose is multiplied by the Total Joint Cost to calculate the joint cost allocated to each purpose.

Step 9: Calculate total costs allocated to each authorized purpose. Add the Separable Cost and the Joint Cost for each project purpose to get the total cost allocated to each authorized purpose. The sum of the costs allocated to each purpose equals the total project cost calculated in Step 1.

4.3 Sub-Allocation Process

Water and Power are two CVP authorized purposes which include multiple sub-purposes with different repayment requirements. As a result, after the SCRB analysis is complete, it is necessary to sub-allocate costs assigned to these purposes. Costs are sub-allocated on the basis of use or

¹⁴ Separable joint costs result from the reduced size of multi-purpose facilities when a given purpose is removed. The reduction in costs associated with the hypothetically re-sized facility reflects separable joint costs.

consumption, namely water deliveries and power generation. For the CAS, the sub-allocation of costs allocated to the water supply purpose is based on the proportion of water use across sub-purposes, and costs allocated to the power purpose are sub-allocated based on the proportionate share of power use. When units are not comparable between water and power, costs are allocated based on the relative investment for each purpose. More information on the water and power sub-allocation process is presented in Chapter 10.3.

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Chapter 5. Key Concepts and Assumptions

This chapter presents key concepts and assumptions used in the CVP CAS. The assumptions are applied to the allocation methodology outlined in Chapter 4, *Cost Allocation Methodology*.

5.1 Two Cost Allocation and Two-Period Repayment Approach

Reclamation policy (PEC 01-02) states that the period for estimating benefits and costs used in the cost allocation process will be the same as that used in project formulation and evaluation, which is the lesser of the economic life of the project or 100 years beyond the initial date of service. Since Shasta Dam was placed into service in 1945, major infrastructure additions, policy changes, and new regulations have altered the operations, authorized purposes, and benefits of the CVP. The SCRB methodology requires accurate estimation of benefits in order to appropriately allocate costs. Due to the substantial changes to the benefits and authorized purposes of CVP following the passage of CVPIA, Reclamation determined it prudent to evaluate the benefits of the CVP for two periods.

The first period (Period 1) allocation reflects historic operations and benefits as developed in the 1975 CVP cost allocation. The second period (Period 2) cost allocation represents current operations and benefits of the CVP following the passage of CVPIA. The final cost allocation presented in the CAS merges Period 1 and Period 2 allocations, putting equal weight to each period.¹⁵ The equal weight given to each period is supported by the approximate mid-point of the 100-year repayment period coinciding with the passing of the COA in 1986, and the subsequent changes to benefits and authorized purposes of the CVP.

The costs allocated in both Period 1 and Period 2 allocations are the total project costs presented in Chapter 3, *Project Facilities and Costs*, which consist of plant-in-service costs for both Reclamation and WAPA as of September 30, 2013.

5.2 Period of Analysis

For cost allocations, Reclamation is required to compare costs and benefits over the period of analysis. PEC 01-02 states: “The period for estimating benefits and costs used in the cost allocation process will be the same as that used in project formulation and evaluation which is the lesser of the economic life of the project, or 100 years beyond the initial date of service” (Reclamation 2013b). Given that the economic life of the CVP is expected to exceed 100 years, the CAS uses a 100-year period of analysis.

¹⁵ Note that the sub-allocation processes in Period 2 will be updated annually (see Chapter 12, *Implementation of the Final Cost Allocation*)

5.3 Base Year (2013)

Comparing costs and benefits that occur at different points in time requires that both benefits and costs be adjusted to a common price level for comparability. The year 2013 was selected as the base year because it corresponds to the underlying cost basis used in the CAS, namely the 2013 CVP financial statement. All historic costs are indexed to 2013 dollars. In addition, all prospective costs and economic benefits are measured in 2013 dollars.

5.4 Treatment of Post-Base Year Activities

Typically, the period of analysis is separated into historic and prospective conditions. Analysis of historic costs and benefits are estimated on actual observations, whereas prospective costs and benefits are forecasted. Estimation techniques are limited to information that is available at the time the analysis is initiated.

It is acknowledged that conditions in which the CVP operates vary over time as laws and policies change and other information becomes known. A common starting point for facts and data used to develop assumptions was selected corresponding to the base year of 2013 to maintain consistent data and assumptions across analyses. Future conditions known as of the base year and expected to exist over the 100-year period of analysis are included in the CAS. Reclamation has determined it prudent to utilize 2013 conditions to allow for timely completion of the CAS. Updating conditions, costs, and benefits would require Reclamation to perform the entire SCRB process again with new assumptions and would likely delay the completion of the CAS.

5.5 Interest Rate

Section 8 of PEC 01-02 states that all benefits and costs for allocation purposes will be placed on a comparable basis in relation to time of occurrence using the same interest rate and period of analysis. The interest rate (also referred to as discount rate) used for the CAS is 3.25 percent. The interest rate used complies with Section 80(b) of P.L. 93-251, which required a December 1968 discount rate for facilities authorized prior to January 1969 (this rate is 3.25 percent). The interest rate used in the CAS is the same interest rate used in past CVP cost allocation studies.

5.6 Single CVP-Wide Allocation

Unlike the existing allocation (Period 1) which utilized the concept of project “bases” for various types of facilities that were grouped together and subject to separate cost allocations, the Period 2 allocation treats CVP facilities across all divisions, units, regions, and programs as a single unit for the purposes of allocating costs. The Period 2 allocation returns to a project-wide approach because the CVP is financially and operationally integrated. The features constructed by USACE and the San Luis, Auburn-Folsom South, and San Felipe units have achieved their ultimate roles in the integrated

CVP. Through a single, integrated operational approach for the cost allocation, the final cost allocation factors can be clearly identified.

5.7 CVP Authorized Purposes

The CAS allocated costs among the following congressionally authorized purposes of the CVP: water supply, power, flood control, water quality, recreation, navigation, fish and wildlife enhancement, and fish and wildlife mitigation (which is treated as a joint cost for cost recovery). A description of each authorized purpose in the context of the cost allocation process is presented below.

5.7.1 Water Supply Purpose

The water supply purpose reflects the CVP's ability to deliver water. The objective of this section is to identify the components of the water supply purpose, discuss how water supply is treated in the CAS, and describe the water supply sub-allocation process.

5.7.1.1 Water Supply as a Single Purpose

Typically, irrigation and M&I water are treated as separate project purposes within a cost allocation. However, in the 1970 (Reclamation 1970) and updated 1975 (Reclamation 1975) CVP cost allocations, these purposes were combined into a water supply function which is further sub-allocated between irrigation, M&I, wildlife refuge, and waterfowl conservation based on the proportion of water delivered to each. This CAS similarly treats water supply as a single water supply function which is sub-allocated to specific water delivery purposes.

The use of a combined water supply purpose allows for adjustments to the proportionate share of costs allocated to irrigation and M&I as deliveries change over time. Additionally, when new units (San Luis and New Melones) are added to the project, the water supply approach allows for relatively easy incorporation of those costs into a CVP-wide allocation compared to treating irrigation and M&I as separate purposes. The 1970 cost allocation stated: "It was recognized that this approach may lose some conceptual correctness, but it was decided the accuracy lost is outweighed by the practical advantage gained from the water supply approach."

5.7.1.2 Components of Water Supply

The water supply purpose for Period 2 is comprised of irrigation, M&I, wildlife refuge, and CVPIA Section 3406(b)(2) (referred to as B2) water. Irrigation water supplies support irrigated agriculture in the CVP service area. M&I water supplies support urban development by providing reliable water supplies to the expanding population base. The CVP also provides water to refuges throughout the State in an effort to help support wildlife populations. Finally, the B2 component of the water supply purpose is measured based on both the volume released for B2 actions during excess conditions and the reduction in Delta exports required to meet B2 actions during balanced conditions. (See the *Hydrological Modeling Appendix* for more details.) Any water stored for the purpose of meeting the SWRCB D-1485 as well as the reasonable and prudent alternatives (RPA) of the biological opinions (BO) is not considered part of the water supply purpose and is considered a

joint cost in the CAS. Additionally, any water stored for the purpose of exceeding SWRCB D-1485 is not considered part of the water supply purpose (included as part of the water quality purpose).

5.7.1.3 Sub-Allocation of Water Supply

Water supply costs are sub-allocated to irrigation, municipal and industrial, wildlife refuge, and B2 functions on the basis of water use. Water supply delivery distributions are estimated by facility. Because Period 2 is a prospective analysis, the water delivery data is based on CalSim 2 modeling that is reflective of the current operating and regulatory environment. Information on B2 water supplies is derived from CVPIA water accounting records.

5.7.1.4 Water Supply Benefits and Costs

Irrigation and M&I benefits are estimated individually to arrive at the water supply total benefit value. Benefits are not estimated for wildlife refuge and B2 water supplies as benefits exceed the SPA. More information on the water supply benefit analysis is presented in Chapter 7, *Economic Benefits*.

In terms of costs, conveyance and pumping facilities generally accommodate water supply deliveries, so all of their costs are assigned to the water supply purpose. Storage facilities, on the other hand, typically serve multiple purposes, including water supply. Separable costs of multipurpose facilities to water supply required additional analysis. The SPA for water supply is based on determining the hypothetical size of each reservoir if it only served water supply purposes, plus all single-purpose water supply facilities.

5.7.2 Fish and Wildlife Enhancement Purpose

The fish and wildlife enhancement purpose is complex and requires additional attention to understand. CVPIA (P.L. 102-575) added “domestic uses and fish and wildlife mitigation, protection and restoration purposes” and “power and fish and wildlife enhancement” as authorized purposes for the CVP. For consistency with Reclamation practice, policy, and law, mitigation costs in the CAS are allocated to all project purposes as joint costs unless specified in specific legislation. The burden for operating the project is shared project-wide and not solely by the reimbursable purposes.

Fish and wildlife enhancement has requirements for allocating joint costs that have not been met, and therefore this purpose does not have costs allocated to it in the CVP. The Fish and Wildlife Coordination Act (60 Stat. 1080) dated August 14, 1946, and P.L. 85-624 dated August 12, 1958, provided that “measures to prevent loss of and damage to wildlife resources” were to be non-reimbursable costs.

Additionally, under PL 89-72, to allocate joint costs to the fish and wildlife enhancement purpose, there must be a commitment by a non-Federal entity to manage project land and water areas for fish and wildlife, as well as to pay a portion of the separable costs. Unless project-specific legislation exists regarding the allocation of joint costs to the fish and wildlife enhancement purpose, Reclamation typically relies on Section 2 of the Federal Water Project Recreation Act (FWPRA) (P.L. 89-72) of 1965, as amended, to determine how costs should be allocated to this purpose.

Prior to project authorization, FWPCA requires that a non-Federal public entity commit in writing to administer project land and water areas for fish and wildlife enhancement, to bear a portion of separable costs allocated to fish and wildlife enhancement, and to bear all operating costs. Because no such commitments by non-Federal entities exist for the CVP, Reclamation determined that the Period 2 allocation would not allocate joint project costs to the fish and wildlife enhancement purpose.

5.7.3 Recreation Purpose

Reclamation relies on Section 2 of the FWPCA of 1965, as amended, to determine the allocation of joint costs to recreation. FWPCA requires that a non-Federal public entity commit in writing, prior to authorization, to administer project land and water areas for recreation, bear a portion of separable construction costs, and bear at least half of all operating costs.

Similar to fish and wildlife enhancement costs, absent any specific authorizing legislation and/or cost sharing agreements with non-federal entities for recreation facilities, no joint construction costs are allocated to the recreation purpose on a CVP-wide basis for Period 2. Certain single-purpose recreation facility costs are allocated to the recreation purpose as separable costs, including the Federal share of non-reimbursable costs associated with Lake Woollomes recreation facilities and San Justo Reservoir recreation facilities. The remaining portion of these recreation costs are also direct assigned to State and local entities pursuant to cost-sharing agreements.

5.7.4 Navigation Purpose

There are no costs allocated to the navigation purpose in Period 2. Navigation was originally a CVP purpose in recognition of historical commerce on the Sacramento River, which was supported by a CVP-authorized minimum flow of 5,000 cubic feet per second (cfs) at Chico Landing. However, there is no navigation currently supported by the CVP. The USACE has not dredged the reach between Sacramento and Chico Landing to preserve channel depths for navigation purposes since 1972. Furthermore, the CVP has no effect on the navigation of ocean-going ships calling at the ports of West Sacramento and Stockton.

5.7.5 Water Quality Purpose

For the Period 2 allocation, Reclamation has determined that it is appropriate to allocate joint project costs to the water quality purpose. Water quality benefits are estimated using the value of irrigation water as the most cost-effective source of water to meet water quality requirements. Water quality SPA costs are estimated using CalSim 2 hydrology modeling to identify the quantity of water stored specifically to exceed D-1485 water quality standards.

The SWRCB is responsible for setting water quality standards which govern the operations of both the CVP and the SWP for the San Francisco Bay/Sacramento-San Joaquin Delta and Estuary. Under P.L. 99-546, both the CVP and SWP are authorized to operate in close coordination pursuant to a Delta cooperative operating agreement. The COA also authorized the CVP to be specifically operated to meet SWRCB's D-1485 water outflow standard. P.L. 99-546 states:

The costs associated with providing Central Valley project water supplies for the purpose of salinity control and for complying with State water quality standards identified in exhibit A of the Agreement Between the United States of America and the Department of Water Resources of the State of California for the Coordinated Operations of the Central Valley Project and the State Water Project, dated May 20, 1985, shall be allocated among the project purposes and shall be reimbursed in accordance with existing Reclamation law and policy. The costs of providing water for salinity control and for complying with State water quality standards above those standards identified in the previous sentence shall be non-reimbursable.

CVP water supplies provide water quality benefits through increased river flows that help meet water quality standards. In terms of reimbursement of costs allocated to water quality, P.L. 99-546 directs that costs associated with providing CVP water supplies for salinity control and complying with State water quality standards (D-1485) are to be allocated among purposes and reimbursed according to Reclamation law and policy. Costs of exceeding D-1485 water quality standards are directed to be non-reimbursable. In 1999, the SWRCB adopted D-1641, amending certain water quality terms and conditions. Meeting D-1641 water quality standards requires exceeding the Delta outflow standards set by D-1485.

5.7.6 Flood Control Purpose

The CVP includes several dams and reservoirs authorized and constructed to meet multiple purposes, including flood control. There are facilities not authorized for flood control that do, in fact, provide flood protection, including Trinity Dam and Reservoir. Therefore, Trinity is included in the flood control analysis in the CAS, specifically the sizing of the flood control SPA. Flood control benefits are based on the value of flood damages prevented as estimated by the USACE. For SPA costs, reservoirs are re-sized for flood protection only based on hydrology analysis. All costs allocated to flood control are considered non-reimbursable.

5.7.7 Power Purpose

The power purpose in the CVP reflects hydropower generation at project facilities that are used for both commercial and project use purposes. Project use energy (PUE) is the power required to operate CVP facilities, such as pumping plants. Any power generated that is not used by the project is considered commercial power, which is marketed by WAPA.

The power purpose benefits are estimated using market prices. Power SPA costs are estimated based on a hypothetical thermal natural gas power plant, which is specifically authorized to serve the CVP. Separable costs assigned to power in the SCR process are limited primarily to single-purpose power facilities.

Costs allocated to the power purpose are sub-allocated between commercial power and PUE proportionate to their respective projected use of CVP power. PUE costs are further sub-allocated among irrigation, M&I, and wildlife refuges proportionate to their projected water use (similar to the water supply sub-allocation, with exception of B2 water supplies). Costs allocated to commercial power are reimbursable from CVP power preference customers.

5.7.8 Fish and Wildlife Mitigation Purpose

P.L. 89-72, FWPCA, dated July 9, 1965, repealed the non-reimbursable provision for mitigation costs while maintaining only fish and wildlife enhancement costs as non-reimbursable. Consequently, fish and wildlife mitigation activities that were authorized and implemented between 1946 and 1965 are treated as non-reimbursable costs, and mitigation activities implemented after 1965 are considered reimbursable. Fish and wildlife mitigation activities have stipulations in legislation that also provide specific allocations, CVPIA being a clear example. Non-reimbursable fish and wildlife mitigation is different than fish and wildlife enhancement, which is also a non-reimbursable cost.

5.8 Allocation of New Melones Unit Cost

The New Melones Unit was first authorized in 1944 to be constructed by the USACE and upon completion was transferred to Reclamation for integration into the CVP. Reclamation has been using the USACE cost allocation for the New Melones Unit (House Doc 453, March 22, 1962) since it became an integrated part of the CVP. The initial USACE allocation was based on significant recreation development that was never realized. Reclamation continued to incorporate the USACE cost allocation into CVP allocations after the inception of the New Melones Unit.

Reclamation determined that no legislative authorities preclude the modification of the USACE allocation for New Melones (or other facilities constructed by USACE). The transfer of facilities to Reclamation included transfer of responsibility to achieve operational and financial integration into the CVP. The CAS reallocates New Melones costs as part of the CAS.

5.9 Water Distribution Systems (Repayment Contracts)

Distribution of water from CVP conveyance facilities (i.e., canals) to the individual water users is the responsibility of the local districts, which use distribution systems comprised of lateral canals and pipelines to convey water to individual farms and municipalities. The costs included in the SCRB process are those costs associated with storage and conveyance of water, but not any distribution system costs beyond the contractor turnout. Water distribution system costs subject to Reclamation repayment contracts are assigned directly to the applicable contractors, rather than through the CAS process. Privately-financed distribution systems are not within the scope of the CAS.

5.10 Safety of Dams Costs

Several dams in the CVP have been modified since their construction for seismic, security, and potential failure risks under Reclamation's Safety of Dams program. These include Folsom Dam and Reservoir, Little Panoche Creek Detention Dam, Los Banos Creek Detention Dam and Reservoir, and O'Neill Dam Forebay and Waterway. SOD legislation stipulates that 15 percent of SOD costs are to be reimbursed by water and power users and the remaining 85 percent of costs are non-reimbursable. With the exception of recent SOD activities at Folsom Dam that are not in repayment

(and not allocated in the CAS), all existing SOD-related costs are treated as direct assigned costs, and thereby excluded from the SCRB analysis. Reimbursable SOD costs are assigned to the reimbursable purposes according to Reclamation policy and practice described below.

On April 17, 2007, the Mid-Pacific Region of Reclamation requested approval from Reclamation's Office of Program and Policy Services to utilize the CVP Irrigation and M&I Ratesetting Policies to repay these SOD costs assigned to water contractors. Under the ratesetting policy, reimbursable SOD costs are collected as storage from all CVP water contractors with the exception of Class 2 water contractors in the Friant Division. In keeping with the spirit of a repayment contract, the split of repayment responsibility between water supply and commercial power remains static, while the split between irrigation and M&I varies annually depending on actual water use. Approval to use the ratesetting policy was granted September 21, 2007.

5.11 Mitigation Costs

Mitigation is broadly defined as project-related activities to avoid, minimize, or compensate for the adverse effects of project construction and operations on affected resources (i.e., environmental, archeological, or cultural). Within the CVP, mitigation costs are commonly associated with two types of activities:

- **ESA-Related RPA Mandates.** CVP facility costs associated with reservoir releases to augment fish flows mandated by the National Marine Fisheries Service (NMFS) of the National Oceanic and Atmospheric Administration (NOAA) and RPAs in the BOs prepared by the USFWS.
- **Non-CVPIA Facilities.** Other fish and wildlife facility costs not authorized under CVPIA. Refer to the CAS Facility List Attachment for additional details.

5.11.1 Reimbursement of Mitigation Costs

For consistency with Reclamation practice, policy, and law, mitigation costs in the CAS are treated as joint costs and allocated to all project purposes unless specified in specific legislation. The burden for operating the project is shared project-wide and not solely by the reimbursable purposes.

5.12 Central Valley Project Improvement Act Costs

As a separate program, CVPIA also mitigates for impacts to fish and wildlife resources from the CVP. Mitigation under CVPIA is distinct from general mitigation costs referenced in Section 5.11 in that the activities are specifically authorized under CVPIA and have specific cost recovery assignments. There are different types of costs associated with the implementation of CVPIA. First, there are plant-in-service CVPIA facilities shown in Schedule No. 1 of the CVP financial statements. There are also CVPIA O&M costs that are recovered in part by payments to the CVPIA Restoration Fund. Finally, there are costs of CVP facilities (both construction and O&M) that get assigned to CVPIA activities that are recovered through the CVP water ratesetting process. The treatment of

CVPIA costs are described in Reclamation’s Business Practice Guidelines for CVPIA Receipts, Program Accounting, Cost Allocation, and Cost Recovery (BPG).

5.12.1 CVP Facility Costs Assigned to CVPIA

The portion of the cost of CVP facilities that is required to store and convey CVP water to meet CVPIA requirements is sub-allocated as part of the water supply purpose.¹⁶ The water supply sub-allocation assigns costs to the refuge water supplies outlined in section 3406(d)(1) of the CVPIA and the mitigation water supplies referenced in section 3406(b)(2) of the CVPIA.

CVPIA Section 3406(d)(1) Wildlife Refuge (also referred to as Refuge Water Supply):

Section 3406(d) of the CVPIA requires Reclamation to provide CVP water to meet Level 2 water demands and to obtain water supplies to meet Incremental Level 4 water demands for optimal waterfowl habitat management needs at identified wildlife refuges managed by the USFWS (Reclamation 1989). Water supply costs associated with storage and delivery of Level 2 water supplies are assigned to Level 2 as part of the water supply sub-allocation and are considered reimbursable by water and power users exclusively.

Incremental Level 4 water costs are associated with water acquisition independent from CVP water supplies. Although Incremental Level 4 refuge supplies are purchased from non-CVP sources, Incremental Level 4 refuge water supply costs associated with CVP conveyance facilities are captured as part of the water supply sub-allocation process and are considered non-reimbursable, and they are allocated 75 percent to Federal government and 25 percent to the State of California.

O&M costs of conveying both Level 2 and Incremental Level 4 water supplies are recovered independently as part of the CVPIA program. However, a portion of the construction costs of CVP conveyance facilities is also sub-allocated to refuges (both Level 2 and Incremental Level 4) as part of the water supply sub-allocation process and collected through water rates.

CVPIA Section 3406(b)(2) Water Supplies (also referred to as B2 Water Supply):

The sub-allocation of water supply costs includes the B2 sub-purpose, which is considered reimbursable. More information on the treatment of B2 costs is presented in Chapter 10, *Cost Allocation Results (Period 2)*. Section 3406(b)(2) provides for the dedication and management of 800,000 acre-feet (AF) of CVP yield to be used for the “primary purpose of implementing the fish, wildlife, and habitat restoration purposes and measures authorized by [CVPIA] (also referred to as B2 water supplies); to assist the State of California in its efforts to protect the waters of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary; and to help meet such obligations as may be legally imposed upon the CVP under State or Federal law...including but not limited to additional obligations under the Federal ESA.”

¹⁶ The sub-allocation of PUE costs also includes an allocation to the refuge water supply sub-purpose, but not B2 water supply.

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Chapter 6. Hydrological Modeling

This chapter briefly describes the hydrological modeling analyses and results developed to support the CAS. See the *Hydrological Modeling Appendix* for more detailed description of tools, assumptions, and data used for the CVP CAS. The CAS relies on hydrological modeling for two main purposes: (1) the development of hydrological inputs used to estimate the economic benefits presented in Chapter 7, *Economic Benefits*, and (2) the development of multipurpose facility SPA sizes discussed further in Chapter 8, *Single-Purpose Alternatives*. In addition, hydrological modeling was considered to estimate separable costs for multipurpose facilities (“omitted purpose analysis”) and it was determined that no re-sizing was necessary. The primary hydrological model used to support the CAS is CalSim 2, which models CVP reservoir storage and conveyance deliveries under a range of hydrological and regulatory conditions. An overview of the hydrological modeling and results for the water supply, water quality, hydropower, and flood control purpose are provided below. In addition, sizing multipurpose storage facilities to meet CVPIA is described, followed by a brief description of a hydrology sensitivity analysis.

6.1 Overview of the Hydrological Modeling

Hydrological model applications used in the CAS analysis include CalSim 2, Flow Tracker, and the Single Purpose Facility Sizing Model (Sizing Model). CalSim 2 is a reservoir-river simulation model developed by the California Department of Water Resources (DWR) and Reclamation commonly used for long-term water supply reliability planning.

The Flow Tracker model was developed to identify SWP storage releases made specifically for Delta outflow as input to the Sizing Model. Additional analysis included post-processing of CalSim 2 results and evaluation of CVPIA records. A spreadsheet post-processor for CalSim 2 results refined the model’s representation of drought year allocation decisions to ensure that delivery results reflect recent operations. An evaluation was made of CVPIA 3406(b)(2) accounting records to determine the use of storage to accomplish the goals of this program.

The CAS analysis uses CalSim 2 to estimate project deliveries and flows under a range of regulatory environments¹⁷. CalSim 2 results are used as the basis for economic benefits of water supply, water quality, flood control, and hydropower as well as in the SPA sizing analyses. Flood control benefit and hydropower SPA facility sizing analyses do not directly use CalSim 2 output.

¹⁷ CalSim 2 modeling incorporated the regulatory environment as of 2013 and is based on an historic 82-year hydrological record (1922–2003). The model has various constraints, including contract maximums, which are used as an upper bound for water deliveries. CalSim 2 estimates deliveries in consideration of the constraints, regulations, available water supply, and other factors explained in the *Hydrological Modeling Appendix*.

6.2 Water Supply Purpose

CalSim 2 input criteria is used to quantify the deliveries that define the water supply purpose and to determine the water supply SPA storage facility sizes for the major CVP reservoirs. Estimated deliveries are summarized by water year type for irrigation, M&I, and wildlife refuges (Level 2) in Table 6-1. Note that these deliveries are summarized from the post-processed CalSim 2 delivery results, which differ from the water deliveries used as input to the economic models (see the *Economic Benefits Analysis Appendix* for more details). Table 6-2 displays the full size and water supply SPA size for the five multipurpose CVP reservoirs that serve the water supply purpose – Friant, New Melones, Trinity, Shasta, and Folsom. Reservoir sizes are measured in thousand acre-feet (TAF). Note that water supply SPA sizes displayed here include volumes associated with CVPIA B2 management actions. Volumes associated with CVPIA B2 management actions are estimated separately, discussed below, and included in the CVP reservoir sizes used in cost estimates (see Chapter 8, *Single-Purpose Alternatives*).

Table 6-1. Estimated Annual Water Supply Deliveries by Water Year Type (TAF)

Delivery Type	Wet	Above Normal	Below Normal	Dry	Critical
Irrigation	6,118	5,603	4,946	4,353	3,121
M&I	606	606	506	447	357
Level 2 Refuge	369	369	369	362	291

Table 6-2. Water Supply SPA Storage Facility Sizing (TAF)

CVP Reservoirs	Full Size	SPA Size (without CVPIA B2) ¹	SPA Size (CVPIA B2)	Total SPA Size
Trinity	2,447	709	24	733
Shasta	4,552	1,391	44	1,435
Folsom	967	181	10	191
New Melones	2,420	640	2	642
Friant	524	476	0	476

1. Includes dead pool storage requirements

6.3 Water Quality Purpose

Water quality responsibilities of the CVP are expressed both by salinity standards, which are met by flow, and by flow requirements that can be surrogates for temperature or dissolved oxygen. Under the complex combined operations of the CVP and SWP, water that is provided to meet a water quality standard at one location can also be used to satisfy a delivery or water quality standard at another location. It can thus be difficult to discern a specific operation for incremental water quality. Quantifying the differences between CVP operations to meet D-1485 and D-1641, and determining the storage necessary to accomplish this, were the goals of the hydrology analysis for the water quality purpose. Separate CalSim 2 studies were developed to represent system operations under both D-1641 and D-1485. A comparison of results between these scenarios shows differences in river flows, Delta outflow, deliveries, exports, and storage conditions, particularly in the Sacramento River basin. The differences in deliveries between these studies reflect the water deliveries that are foregone in order to meet the higher water quality standards of D-1641. These foregone deliveries were used as inputs to economic benefits models to calculate the representation of economic benefit for the water quality purpose. Table 6-3 displays estimated annual delta outflows and foregone irrigation, M&I, and refuge water deliveries by water year type.

Table 6-3. D-1641 Estimated Annual Water Requirements by Source and Water Year Type (TAF)

Parameter	Wet	Above Normal	Below Normal	Dry	Critical
Delta Outflows ^{1,2}	0	0	206	338	449
Foregone Irrigation Deliveries	34	114	167	118	171
Foregone M&I Deliveries	2	5	7	4	10
Total	36	119	380	460	630

1. Represents CVP portion of Delta outflow requirement

2. CalSim 2 modeling shows that estimated Delta outflow requirements in wet and above normal years are negative; these values have been adjusted to zero.

Table 6-4 shows the storage facility Sizing Model results for the SPA for water quality. New Melones does not appear in Table 6-4 because the difference in SPA is negligible. New Melones does meet water quality standards at Vernalis and dissolved oxygen standards at Ripon, but overall differences in the combinations of criteria between D-1485 and D-1641 resulted in the reservoir needing to be the same size under both regulatory environments. Friant does not serve a water quality purpose.

Table 6-4. SPA Storage Size Results for the Water Quality Purpose (TAF)

CVP Reservoir	Full Size	D-1485 with Current Deliveries	D-1641 with Current Deliveries	Difference = SPA storage size for water quality	Minimum Storage (Deadpool)	Total SPA Size¹
Trinity	2,447	1,793	1,905	112	240	353
Shasta	4,552	3,361	3,567	206	550	756
Folsom	967	718	757	39	90	129

1. Includes storage requirements for CVPIA B2 water quality objectives

6.4 Hydropower Purpose

Estimated energy generation in the CVP system is the basis of the hydropower economic benefit analysis and thermal plant SPA sizing for the hydropower purpose (see Section 8.5 for details on the thermal plant SPA). The long-term generation (LTGEN) model (developed by Reclamation and WAPA) converted monthly data of reservoir releases from the CalSim 2 hydrology model to estimate hourly CVP power generation available to meet preference power and project use requirements. The LTGEN model estimated monthly power generation and use in megawatt hours (MWh) for each CVP power facility based on CalSim 2 modeling.

CalSim 2 delivery and release data is used as an input for the LTGEN model to estimate the annual amount of energy that would be produced by CVP power facilities for the 100-year period of analysis. Table 6-5 displays the CVP system estimated annual energy generation and consumption by water year type.

Table 6-5. Estimated Annual Power Generation and Consumption by Water Year Type (GWh)

Power Component	Wet	Above Normal	Below Normal	Dry	Critical
Energy Generation	6,463	5,211	4,226	3,909	3,024
Energy Use	1,417	1,216	1,126	1,017	694
Net Generation	5,046	3,995	3,100	2,891	2,330

6.5 Flood Control Purpose

CalSim 2 output is used to develop SPA storage facility sizing for the flood control purpose. The CVP storage facilities which operate for flood control are Trinity, Shasta, Folsom, New Melones,

and Friant (Millerton). All of these facilities except for Trinity include flood control in their authorizing legislation. The flood control rule method is used for determining the SPA sizes of a reservoir, which involves selecting the largest value for required flood space in a reservoir from the historical flood control diagrams and adding this to the dead pool space. Table 6-6 provides a summary of sizing results produced by this method.

Table 6-6. SPA Storage Size Results for the Flood Control Purpose (TAF)

CVP Reservoir	Minimum Flood Control Rule	Storage Capacity	Flood Space Required	Minimum Storage (Dead Pool)	Flood Control SPA Size
Shasta	3,250	4,552	1,302	550	1,852
Folsom	367	967	670	90	690
New Melones	1,970	2,420	450	80	530
Millerton	351	524	174	135	309

Trinity has a unique flood control mandate relative to the other four facilities since flood control is not an explicitly authorized purpose. Instead the dam operates to protect downstream assets under the Trinity River Mainstem Fishery Restoration ROD. Due to the unique nature of the flood control mandate for Trinity, a daily hydrology model analysis is used to determine the flood control SPA for Trinity of 578 TAF.

6.6 Sizing Multipurpose Storage Facilities to Meet B2 Objectives

CVPIA Section 3406(b)(2), or B2, dedicates an annual portion of project yield for the “primary purpose of implementing the fish, wildlife, and habitat restoration purposes and measures authorized by this title; to assist the State of California in its efforts to protect the waters of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary; and to help meet such obligations as may be legally imposed upon the Central Valley Project under State or Federal law following the date of enactment of this title, including but not limited to additional obligations under the Federal Endangered Species Act.”

Reclamation records of annual B2 accounting specify how much B2 water is ultimately used by purpose, although water that is ultimately exported is not included in the accounting. Existing analysis identified the water storage requirements specifically for B2 to be 208 TAF, excluding B2 water that is ultimately exported as irrigation or M&I water. This figure can be broken into three pieces: B2 actions attributed to the water supply purpose (79 TAF); B2 for RPA mitigation (69 TAF); and B2 for water quality (60 TAF) (see the *Hydrological Modeling Appendix*).

The CAS considers the storage cost of producing CVPIA instream flow actions and of exports that are foregone due to CVPIA Delta actions. Due to the continuous and evolving nature of CVPIA

accounting methodologies, it has not been possible to include a consistent long-term plan for B2 actions in the CalSim 2 model. Consequently, daily accounting records detailing historical storage releases and export reductions used for actions from 2008 to 2014 were analyzed.

The required storage for B2 water supply actions is calculated as the 2008-2014 average annual total of the volume of releases designated to have been made for B2 actions during excess conditions and the average annual volume of exports reduced for B2 actions during balanced conditions. This average annual volume is distributed among the storage facilities based on proportional B2 releases from each reservoir (instream release element) and distribution of north-of-Delta CVP reservoir sizes (export reduction element). Table 6-7 displays the estimated storage reserves used to meet B2 action management for Trinity, Shasta, Folsom, and New Melones storage facilities.

Table 6-7. Estimated Average Annual Storage Requirements Used to Meet B2 Water Supply Objectives (TAF)

B2 Objective	Trinity	Shasta	Folsom	New Melones	Total
B2 – Water Supply	24.1	43.7	9.6	1.6	79.0

6.7 Hydrology Sensitivity Analysis

The CAS relies on recent information from the Sacramento and San Joaquin Rivers Basin Study (SSJRBS) to assess the potential differences in water supply availability that might occur between a no-climate-change scenario and various other future climate change projections (see the Hydrology Sensitivity Analysis Attachment to the *Hydrological Modeling Appendix* for more details).

The SSJRBS modeling generated a substantial amount of quantitative information, some of which is used for this CAS assessment. The assessment is composed of specific statistical tests, which describe how the hydrology may differ under various climate projections (i.e., warm-dry, hot-dry, hot-wet, warm-wet, and central tendency). One statistical test compared the hydrologic inflows into the Sacramento and San Joaquin Valleys under a no-climate-change scenario to the inflows under a range of future climate projections by annual total and monthly distribution, and in groups of average annual totals by water year type. Another test compared CVP water deliveries under a no-climate-change scenario to CVP deliveries under a range of future climate projections. The results of the statistical assessment were used to qualitatively characterize potential climate change effects on CVP benefits and SPAs estimated for the CAS.

Since the central tendency projection includes a relatively large ensemble of 175 different projections, it is believed that it provides a reasonable and appropriate reference point to compare its associated inflows/deliveries to those associated with the no-climate-change projection. The results of the tests indicate that the inflows into the Sacramento and San Joaquin Valleys associated with the no-climate-change scenario and the inflows associated with the central tendency climate projection are not significantly different. Similarly, no significant difference was found between the

no-climate-change and central tendency projections in terms of total CVP deliveries. The results of the climate change statistical tests indicate, in terms of inflows and deliveries, the hydrology used in the CAS was reasonable and appropriate and by extension, that the estimate of benefits and SPA sizing of storage facilities was reasonable. See the Hydrology Sensitivity Analysis Attachment to the *Hydrological Modeling Appendix* for more details.

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Chapter 7. Economic Benefits

This chapter presents the results of the economic benefit analyses prepared for the CAS. The economic benefits for each authorized purpose are used to evaluate the justifiable expenditure for each authorized purpose in the SCRB analysis. The justifiable expenditure for each authorized purpose is the lesser of the SPA cost (presented in Chapter 9, *Cost Estimates*) and the economic benefits of the authorized purpose described in this chapter. Detailed documentation of the economic benefit analyses prepared for the CAS is presented in the *Economic Benefits Analysis Appendix*.

7.1 Overview of the Economic Benefits Analyses

The economic valuation approach for the CVP CAS is consistent with the *Federal Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies* (P&G) (WRC 1983). The P&G indicate the Federal objective of water and related land resources project planning is to contribute to national economic development consistent with protecting the nation's environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements.

CVP CAS economic benefits are estimated for the four purposes that generate benefits and meet cost-sharing requirements: water supply, water quality, flood control, and power. Water supply benefits are attributed to two water supply sub-purposes, irrigation and M&I. Water quality benefits are based on the water supply required to meet water quality standards. Flood control benefits are based on the avoided flood damages provided by CVP facilities. Power benefits are based primarily on the market value of power produced by CVP hydropower generation facilities, in conjunction with ancillary service and capacity benefits.

7.2 Economic Analysis Parameters

The economic benefits presented in this chapter are based on analysis of operations of the CVP over a 100-year period. The operational conditions assumed over the 100-year period are designed to be representative of the benefits and authorized purposes under current regulatory conditions. The methodology used to estimate economic benefits has the following common elements, except where noted:

- Hydrology outputs from the CalSim 2 model presented in the *Hydrological Modeling Appendix* are used as inputs for the economics models, with the exception of flood control which are based on damages avoided as estimated by the USACE.
- All benefit values are presented in 2013 dollars.
- The annual economic benefits attributed to each project purpose are estimated for each water year type. A representative annual benefit is developed for each project purpose by calculating

the weighted average of benefits based on the distribution of water year types in the hydrologic record.

- The total benefit estimated for each project purpose in the SCRB reflects the present value of the representative annual benefit received each year over a 100-year period using a discount rate of 3.25 percent.
- The benefits estimated for each water-year type are based on the 82-year hydrological record (1922 – 2003) in CalSim 2. Subsequent to model runs and prior to completion of the CAS, additional water-year type data through 2013 became available. Reclamation, in coordination with CAS stakeholders agreed to include the water years 2004 – 2013 for the sole purpose of computing water-year type weights. The different water-year types are weighted based on the relative distribution in the hydrologic record extended through 2013. Water year classifications are based on the SWRCB Sacramento Valley index. The weights across the five water-year types are:
 - Wet (30.4 percent)
 - Above Normal (14.1 percent)
 - Below Normal (18.5 percent)
 - Dry (22.8 percent)
 - Critical (14.1 percent)

7.3 Irrigation Water Supply Benefits

This section presents a summary of the methodology and results of the analysis used to estimate economic benefits attributed to CVP irrigation water supplies. More detailed information about the irrigation benefit analysis is in the *Economic Benefit Analysis Appendix* to this report.

7.3.1 Irrigation Benefits – Methodology

Irrigation water supply benefits are based on the change in net farm income that results from the application of CVP water to irrigate crops. The Irrigation water supply benefits are quantified using the Statewide Agricultural Production (SWAP) model and irrigation water delivery data developed with the CalSim 2 hydrological model (see Chapter 6, *Hydrological Modeling*). The SWAP model is a regional agricultural production and economic optimization model used to simulate the decisions of farmers across agricultural land in California. The SWAP model has been used to estimate CVP irrigation benefits for numerous Reclamation and DWR studies. The SWAP model assumes growers select the level of inputs such as cropping acreages, labor, and water use to maximize profit subject to resource, market, and technology constraints. The SWAP model used for the CAS was calibrated to observed cropping patterns and land use data (year 2010 data).

7.3.2 Irrigation Benefits – Results

The economic benefits associated with CVP irrigation water supplies are estimated as the additional profit realized by farmers across SWAP regions from applying CVP water supplies. Irrigation

benefits are comprised of four components: net farm income (excluding water and land fallowing costs), avoided surface water costs, avoided groundwater pumping costs,¹⁸ and avoided land fallowing costs. Table 7-1 displays estimated irrigation benefits attributed to the CVP. The greatest benefits occur in wet years (\$877.2 million annually) based on the relatively high quantity of CVP surface water that is delivered while the lowest benefits occur in critical years (\$176.9 million annually).

Table 7-1. Estimated Annual Economic Benefits of CVP Irrigation Water Supplies, by Water Year Type (\$millions)

Benefit	Wet	Above Normal	Below Normal	Dry	Critical	Weighted Average
Irrigation	\$877.2	\$642.3	\$485.7	\$316.6	\$176.9	\$544.7

The weighted average annual irrigation benefit (\$544.7 million) is capitalized over the 100-year period of analysis using a 3.25 percent interest rate. The present value of estimated CVP irrigation benefits is approximately \$16.1 billion.

7.4 Municipal & Industrial Water Supply Benefits

The economic benefits associated with CVP M&I water are estimated as the avoided costs associated with CVP M&I surface water deliveries. Additional information about the M&I benefit analysis is presented in the *Economic Benefit Analysis Appendix* to this report.

7.4.1 M&I Benefits – Methodology

M&I water supply benefits are estimated as the avoided costs of water supply reliability with-CVP in place relative to costs without-CVP in place. M&I benefits are estimated using two economic planning models widely used in California. The Least Cost Planning Simulation Model (LCPSIM) and the Other Municipal Water Economics Model (OMWEM) are used to estimate CVP M&I benefits with water delivery data developed with the CalSim 2 hydrological model (see Chapter 6, *Hydrological Modeling*). The LCPSIM is used to estimate M&I benefits in the San Francisco Bay Area and OMWEM is used to estimate benefits to CVP contractors outside the San Francisco Bay Area. A small portion of CVP M&I contractors' benefits are estimated using output from OMWEM and are not modeled directly in OMWEM or LCPSIM. The results from each model are combined for estimating total benefit by creating a weighted average based on acre-foot deliveries to customers in each area.

¹⁸ The irrigation benefits presented in this study do not account for projected groundwater conditions anticipated under the Sustainable Groundwater Management Act (SGMA) enacted in 2014. Implementation of SGMA over the period of analysis will likely increase the value of irrigation benefits in the CVP; however, additional irrigation benefits will not affect the results of the cost allocation as the water supply SPA costs represent the justifiable expenditure for that authorized purpose in the SCRB analysis.

LCPSIM and OMWEM models are annual time-step urban water service system simulation and optimization models with the objective of finding the least-cost water management strategy for a region, given the mix of demands and available supplies. The models estimated benefits based on the least-cost water management strategy for a region using the most likely non-Federal options that would be implemented in the absence of the CVP. The two models have been used to estimate CVP M&I benefits for numerous Reclamation and DWR studies and were selected because of the need to estimate system-wide benefits rather than benefits at the margin of the California water market.

The models use contract delivery data (modeled in CalSim 2), local water supply information, and imported water information (if applicable) to simulate the decision-making needed to meet 2030 water demand levels at the lowest economic cost. The models include shortage management measures (e.g., use of regional carryover storage, water market transfers, and contingency conservation) and shortage allocation rules to reduce regional costs and losses associated with shortage events. The models also include long-term regional demand reduction and supply augmentation measures (e.g., toilet retrofit programs and wastewater recycling) that reduce the frequency, magnitude, and duration of shortage events.

7.4.2 M&I Benefits – Results

Table 7-2 presents CVP M&I benefits by water year type. The benefits represent the avoided costs of water supply reliability with-CVP in place relative to costs without-CVP in place. The M&I water supply benefit is estimated to be approximately \$220 million. The total benefit is estimated as the weighted average of expected costs with-CVP, minus weighted average expected costs without-CVP (\$207.6 million), plus the total benefits of other CVP M&I contractors not included in OMWEM or LCPSIM (\$12.4 million).

Table 7-2. Estimated Annual Economic Benefits of CVP M&I Water Supplies, by Water Year Type (\$millions)

Benefit	Wet	Above Normal	Below Normal	Dry	Critical	Weighted Average
CVP M&I Benefits Estimated with LCPSIM and OMWEM	\$213.2	\$201.2	\$190.6	\$223.1	\$198.9	\$207.6
CVP M&I Benefits for Other CVP Contractors						\$12.4
Total						\$220.0

The weighted average value of M&I benefits is estimated to be \$220 million annually. The present value of CVP M&I benefits is approximately \$6.5 billion based on a project life of 100 years and a discount rate of 3.25 percent.

7.5 Water Quality Benefits

This section presents a summary of the methodology and results of the analysis used to estimate the economic benefits attributed to water quality provided by the CVP. Additional information about the water quality benefit analysis is presented in the *Economic Benefit Analysis Appendix* to this report.

7.5.1 Water Quality Benefits – Methodology

Water quality benefits for the CAS are based on the foregone value of the next best use of the water used to meet water quality standards. CVP water quality benefits are based on the irrigation value of water which is estimated using the SWAP model. Water Quality benefits are quantified using the SWAP model and foregone water delivery data developed with the CalSim 2 hydrologic model (see Chapter 6, *Hydrological Modeling*).

The fundamental premise of the water quality benefit analysis is that all CVP water required to meet incremental D-1641 water quality (above D-1485 requirements, also referred to as incremental difference) requirements must be valued, including foregone irrigation and M&I/refuge deliveries and Delta outflows. As shown in Chapter 6, *Hydrological Modeling* (Table 6-3), this quantity ranges from a low of 36 TAF in wet years to nearly 630 TAF in critical years, averaging 172 TAF across all water years.

7.5.2 Water Quality Benefits – Results

The water quality benefits for the CVP are based on SWAP modeling, which provided a proxy value for water quality benefits using agricultural values. The benefits reported by SWAP are calculated based on changes in net farm income, surface water and groundwater costs, and land fallowing costs.

Table 7-3 displays estimated water quality benefits attributed to the CVP. Water quality benefits are estimated to be \$49.4 million annually, on average. The greatest benefits occur in critical years (\$103.3 million annually) based on the relatively large quantity of CVP water that is needed to meet incremental D-1641 water quality standards. Conversely, the lowest benefits occur in wet years (\$7.0 million annually).

Table 7-3. Estimated Annual Economic Benefits of CVP Water Quality, by Water Year Type (\$millions)

Benefit	Wet	Above Normal	Below Normal	Dry	Critical	Weighted Average
Water Quality	\$7.0	\$21.4	\$60.7	\$80.6	\$103.3	\$49.4

For the CAS, annual water quality benefits are discounted over the 100-year period of analysis using a 3.25 percent interest rate. The present value of estimated CVP water quality benefits is estimated to be approximately \$1.5 billion.

7.6 Flood Control Benefits

The CVP is composed of several dams and reservoirs that are authorized and constructed to meet multiple purposes, including flood control. Flood control benefits are estimated for Shasta, Folsom, New Melones, and Friant CVP dams/reservoirs.

There are several other CVP facilities that provide flood control benefits which have not been quantified for the CAS. These facilities include Trinity Dam and Reservoir, Los Banos Creek Detention Dam, and Whiskeytown Dam and Reservoir. Although these facilities provide flood control benefits, they have not been quantified due to lack of available data. As such, the benefits provided in this paper represent a lower bound of flood control benefits provided by the CVP.

The omission of flood control benefits at these facilities does not affect the cost allocation because the flood control SPA (and not benefits) represents the justifiable expenditure for flood control in the SCRB calculations. Additional information about the flood control benefit analysis is presented in the *Economic Benefit Analysis Appendix* to this report.

7.6.1 Flood Control Benefits – Methodology

The flood control benefit estimates are made for Shasta Dam and Reservoir, Folsom Dam and Reservoir, the New Melones Dam and Reservoir, and Friant Dam and Reservoir using historical annual damages-prevented information provided by the USACE, Sacramento District. The USACE calculates annual damages prevented by comparing downstream river stages at selected sites under regulated flow conditions and unregulated flow conditions. The river stages under each condition are then compared to a stage-damage curve which describes the amount of damages that could be expected based on a range of river stages representing high exceedance probability to low exceedance probability flow events. The lower amount of damages under the with-project condition as compared to the without-project condition reflects the positive effects of reservoir operations on downstream flows and are considered to be the damages prevented (benefits). The USACE dataset on flood control benefits used for this report covers historical conditions through the year 2010. The estimates of nominal flood control benefits are updated to October 2013 price levels using the Gross Domestic Product (GDP) Implicit Price Deflator.

7.6.2 Flood Control Benefits – Results

The total damages prevented are divided by the number of years of record, by facility, to derive an average annual damages-prevented value. For example, the total damages prevented for Shasta Dam and Reservoir over the entire period of record for that reservoir (1952 to 2010) were approximately \$29.0 billion (2013 dollars). This value is then divided by 59 (the number of years in the period of record for Shasta Dam) to derive an average annual value for prevented flood damages of approximately \$491.5 million (note that the period of record for each dam and reservoir varies). Table 7-4 displays the average annual flood control damages-prevented values for each dam/reservoir. Total flood control benefits are estimated to be nearly \$1.3 billion annually, on average.

Table 7-4. Estimated Annual Economic Benefits of CVP Flood Control, (\$millions)

CVP Reservoir	Benefits (Annual)
Shasta	\$491.5
Folsom	\$761.2
New Melones	\$15.9
Friant (Millerton)	\$18.8
Total	\$1,287.3

For the CAS, annual flood control benefits are discounted over the 100-year period of analysis using a 3.25 percent interest rate. The present value of estimated CVP flood control benefits is approximately \$38.0 billion. As noted above, the estimated benefits represent a lower bound of flood control benefits provided by the CVP.

7.7 Power Benefits

This section summarizes the results, and the analytical method used to estimate the economic benefits attributable to CVP hydropower generation. Treatment of the San Luis pump-generating unit in relation to hydropower and water supply benefits is also discussed. Power benefits are estimated based on the actual or simulated market prices associated with CVP hydropower services. Additional information about the power benefit analysis is presented in the *Economic Benefit Analysis Appendix* to this report.

7.7.1 Power Benefits – Methodology

Hydropower benefits are estimated in consultation with WAPA. The value of power benefits evaluated for the CAS is composed of the following three elements: (1) forecasted California Independent System Operator (CAISO) hourly day-ahead market prices for energy from PLEXOS model, (2) forecasted CAISO hourly day-ahead market prices for ancillary services from PLEXOS model, and (3) planning capacity/resource adequacy to meet expected future demand/load growth considerations by applying CAISO market prices for resource adequacy to the estimated capacity provided by the CVP resource. CVP energy generation is estimated using output from CalSim 2 and LTGEN models (see Chapter 6, *Hydrological Modeling*, for more details), and inputs into the PLEXOS model used a forecasted database used by the California Public Utilities Commission for energy resource planning (see the *Economic Benefits Analysis Appendix* for more details).

Energy, ancillary services, and planning capacity/resource adequacy components of estimated annual CVP hydropower benefits are described below:

- **Energy** – Electricity generation that is scheduled to be provided when it is most valuable, if possible.
- **Ancillary Services** – For the purposes of the CVP CAS, only include spinning, non-spinning, and replacement reserves used in estimating power benefits. Other ancillary services as defined by Western Electricity Coordinating Council/North American Electric Reliability Corporation operating criteria are not included for consistency with the services under contract to CVP Power Preference Customers.
- **Capacity/Resource Adequacy** – Amount of electric power for which a generating unit, generating station, or other electrical apparatus is rated either by the user or manufacturer. Capacity is valuable because of the need for sufficient machine capability to meet the peak electrical load hour during the hottest summer day. Resource Adequacy is a mandatory planning and procurement process to ensure resources are secured by Load Serving Entities to meet the ISO's forecast system, local, and flexible capacity needs.

The PLEXOS Model is used to estimate energy and ancillary service benefits. The PLEXOS model was selected for use in the CVP CAS based on a variety of factors including (but not limited to) its relative ability to accurately simulate different future scenarios given specific constraints, as well as its widespread usage in the power industry. It simulates power markets by optimizing energy, ancillary services, generation, and transmission utilization subject to physical and operational constraints. Two simulations were run to determine CVP power benefits. The first covered the entire Western Electricity Coordinating Council's (WECC) system to generate projected pricing and ancillary services data, including CVP facilities. A subsequent simulation optimized the dispatch of the CVP facilities using the projected pricing and ancillary services data generated in the first simulation. The simulated generation data is a 2024 baseline year used to calculate annual benefits across the period of analysis used in the study. The PLEXOS model used output data from LTGEN (i.e. total monthly generation) as inputs that were incorporated into the simulation to estimate benefits. Please refer to the *Economic Benefits Analysis Appendix* for a more detailed description of the model and reasons for its usage to estimate economic benefits for the CVP CAS.

Capacity/resource adequacy is estimated outside of the PLEXOS model. Although WAPA only markets two non-firm variable products, energy and ancillary services, some of WAPA's customers claim their CVP allocation for capacity purposes, thus avoiding certain CAISO costs related to short-term operational requirements to ensure grid reliability. These grid reliability requirements are referred to as resource adequacy. Using the CAISO market value for resource adequacy is considered to be representative of the actual value that WAPA preference power customers realize when claiming CVP capacity benefits. A CAISO market-based price for resource adequacy is used as a proxy for that value now and for the foreseeable future, since its value is calibrated to the amount of capacity present in the existing and predicted future system.

7.7.1.1 LTGEN and PLEXOS Adjustments for Flood Bypass

After the PLEXOS CVP benefit simulation was completed, it was determined that the version of the LTGEN model used to develop inputs to the PLEXOS model overestimated generation when compared to the historical generation levels due to underestimation of generator flood bypasses. A methodology was developed to isolate the missed flood bypass from LTGEN to adjust the power

benefits estimated by PLEXOS. This post-process adjustment of LTGEN and PLEXOS results was performed for the energy component of the power benefits in the CAS. An analysis was performed to map the historical record to the respective CalSim 2 data input to LTGEN and the energy benefits were reduced by water year type. Further explanation of this analysis can be found in the *Economic Benefits Analysis Appendix*.

Table 7-5 displays the resulting energy benefits that include the post-process adjustment to the PLEXOS results that are informed by the LTGEN analysis.

7.7.1.2 Treatment of San Luis Unit Pump-Generating Unit

The San Luis Unit is part of both the Federal CVP and the California SWP. Authorized by the San Luis Act in June 1960 (Public Law 86-488), it is jointly operated by Reclamation and the DWR primarily for the purpose of water supply. Two features of the San Luis Unit are pump-generating (“pump-gen”) plants – the O’Neill Pump-Generating Plant and the William R. Gianelli Pump-Generating Plant. These two facilities pump water into the O’Neill Forebay and San Luis Reservoir respectively, for off-stream storage. During water operations, water is either released for delivery from O’Neill Forebay into the Delta Mendota Canal or from San Luis Reservoir back through the pump-turbines of both facilities to generate reclaimed energy. The reclaimed energy helps offset part, but not all of the cost of pumping water into San Luis Reservoir.

Because the energy required to pump water into the reservoir is greater than the energy generated when the water is released for delivery, all of the energy generated by these pump-gen plants is considered to be an offset to the cost of pumping. Accordingly, the total cost of both pump-gen plants, as well as the value of the energy generated by them, was assigned to the water supply purpose. As a result, it was necessary to adjust (reduce) the energy power benefits modeled in PLEXOS by the value of generation produced by the pump-gen plants and add that value to the water supply benefits. This adjustment factor (0.975) was multiplied by the estimated annual energy generation benefits prior to calculating the discounted net present value over the planning horizon. The adjustment factor did not affect the benefits attributed to ancillary services or resource adequacy.

7.7.2 Power Benefits – Results

The estimated energy and ancillary service CVP power benefits are shown in Table 7-5, and estimated total hydropower benefits are shown in Table 7-6. As discussed above, the benefit values used in the CAS for the power purpose are the values of CVP energy generated without the San Luis Unit. The value of energy generated by the O’Neill and Gianelli pump-generating plants is subtracted from the estimated hydropower benefit and added to the estimated water supply benefit. The energy generation benefits reported in Table 7-5 are subject to the adjustment described in the previous section. In addition (shown in Table 7-6), the estimated capacity/resource adequacy value is added and total hydropower benefits (without San Luis Unit) and other benefits are estimated to be nearly \$193.9 million annually.

Table 7-5. Estimated Annual CVP Hydropower Benefits, by Water Year Type (\$millions)

Benefit Component	Wet	Above Normal	Below Normal	Dry	Critical	Weighted Average
Energy	\$228.1	\$201.5	\$170.6	\$155.1	\$115.4	\$181.1
Ancillary Services	\$0.7	\$0.5	\$0.4	\$0.4	\$0.5	\$0.5
Total	\$228.7	\$202.1	\$171.0	\$155.5	\$116.0	\$181.6

Table 7-6. Estimated Annual Total CVP Hydropower Benefits (\$millions)

CVP Hydropower Energy and Ancillary Service Benefit (with San Luis Unit)	\$181.6
Less: San Luis Unit Energy Benefit (Water Supply Cost Saving Benefit)	\$4.5
CVP Hydropower Energy and Ancillary Service Benefit	\$177.1
Plus: CVP Capacity (Resource Adequacy) Benefit	\$16.8
Total Estimated Annual CVP Hydropower Benefit	\$193.9

For the CAS, annual power benefits are discounted over the 100-year period of analysis using a 3.25 percent interest rate. The present value of CVP power benefits is approximately \$5.7 billion.

7.8 Summary of Economic Benefits

For the CAS, all of the CVP economic benefits are based on a 100-year prospective analysis as discussed in more detail in Chapter 5, *Key Concepts and Assumptions*, of this report. All results are discounted to a present value in 2013 dollars using 3.25 percent interest rate. Table 7-7 displays the total benefits for each of the purposes analyzed. These values are used as inputs to the SCRB analysis presented in Chapter 10, *Cost Allocation Results (Period 2)*.

Table 7-7. Summary of Estimated Economic Benefits of the CVP (2013 Dollars) (\$millions)

Type of Benefit (Purpose)	Average Annual Benefit	Present Value Benefit (100 Years)
Water Supply	\$769.2	\$22,702.5
<i>Irrigation</i>	\$544.7	\$16,076.1
<i>M&I</i>	\$220.0	\$6,492.7
<i>San Luis Unit Pump-Gen</i>	\$4.5	\$133.7
Water Quality	\$49.4	\$1,457.6
Flood Control	\$1,287.3	\$37,992.2
Hydropower	\$193.9	\$5,723.6

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Chapter 8. Single-Purpose Alternatives

This chapter presents an overview of the development of the single-purpose alternatives required for the SCRB analysis. The cost estimates associated with the SPAs are presented and described in Chapter 9, *Cost Estimates* (see Table 9-4). Additional facility-level information supporting the SPA cost analysis is presented in the *Cost Estimates Summary Table Appendix*.

8.1 Conceptual Approach to Single-Purpose Alternative Analyses

The SCRB analysis requires SPA costs for each authorized project purpose that will share in joint project costs. In the context of the CAS, these purposes are water supply, water quality, flood control, and power. The SPA cost is the cost of the most likely federally financed alternative that provides the same level of benefits to a particular purpose as the existing project. As explained in Chapter 4, *Cost Allocation Methodology*, the lesser of the economic benefits or SPA costs constitute the justifiable expenditure for each purpose in the SCRB process. The focus of this chapter is the methodology for development of the SPAs for the water supply, water quality, flood control, and power purposes. SPA cost estimates are not required for the recreation, fish and wildlife enhancement, and navigation purposes because they do not share in joint costs.

In order to formulate the SPA for each project purpose, existing CVP facilities were evaluated to determine if they were required to provide the benefits for that purpose, and if so, whether the facility would need to be modified for that purpose only. The exception to this process is the power SPA, which is based on a thermal power plant that provides power benefits equivalent to the existing project rather than existing CVP hydropower facilities. Once the features (and appropriate scale of features) are identified for each SPA, cost estimates are developed. The SPA cost for each respective purpose is the sum of construction, IDC, and OM&R¹⁹ costs for all features that support that purpose (see Chapter 9, *Cost Estimates*).

8.1.1 Single-Purpose Facilities

The cost of each single-purpose facility is included in the respective SPA that it serves. For example, a single-purpose water supply canal is included in the water supply SPA only. Because single-purpose facilities do not support other purposes by definition, they do not need to be re-sized and are included at full scale in the applicable SPA. The individual single-purpose facilities included in each SPA are presented in the SPA descriptions below.

8.1.2 Multipurpose Facilities

Because multipurpose facilities serve more than one purpose, they had to be hypothetically re-sized, as necessary, to provide only the benefits of the specific purpose being evaluated. In other words, the SPA sizing analysis calculated operations for multipurpose facilities as if the one purpose being evaluated was its sole function. For the CAS, a small group of multipurpose facilities (primarily dams

¹⁹ OM&R costs include “soft” costs that are attributable to the CVP as a whole rather than a specific project feature; soft costs were added to all SPAs.

and reservoirs) are re-sized for the water supply, water quality, and flood control SPAs using CalSim 2 hydrology modeling described in Chapter 6, *Hydrological Modeling*, and the *Hydrological Modeling Appendix* to this report.

Other multipurpose facilities were not re-sized for any given SPA. In other words, the full size (and cost) of the facility is required to provide the benefits for any given SPA. Other multipurpose facilities that could not be resized that are included as part of all SPAs include:

- Centralized Water & Power System Control
- Spring Creek Debris Dam and Reservoir
- CVP Radio Network
- Clear Creek Tunnel
- Telemetry Equipment
- Permanent Operating Facilities – Folsom
- Permanent Operating Facilities – Trinity
- Keswick-Carr Microwave System
- Radio Stream Gauges
- Permanent Operating Facilities – Shasta
- Whiskeytown Dam & Reservoir
- Radio Rain Gauges

8.1.3 Mitigation

In addition, some facilities (or portions of facilities) in the CVP are considered mitigation costs. In theory, mitigation activities are addressing adverse impacts of the CVP as a whole so it is not appropriate to assign mitigation to any single purpose. Instead, for the purpose of estimating SPA costs, mitigation costs are included, in total, as part of each SPA. Mitigation activities that are included as part of all SPAs include:

- Tracy Fish Collection Facility – Replace Transformers
- Red Bluff Diversion Dam – Mitigation
- Tehama-Colusa Canal – Mitigation
- San Luis Unit Fish and Wildlife Facility
- Trinity River Restoration Project

8.1.4 Activities with Direct Assigned Costs

Direct assigned costs are not included in the SPAs developed for each project purpose. Direct assigned costs do not contribute towards CVP project benefits and would not be required to operate the CVP if it were operated for any single purpose.

8.1.5 Summary of SPA Approach

In summary, the total cost of each SPA includes the estimated cost of the re-sized multipurpose reservoirs (if applicable) plus the cost of non-diminishable multipurpose facilities, all single-purpose facilities for each respective purpose, and mitigation costs. The SPAs exclude direct assigned costs. An overview of each respective SPA is presented below.

8.2 Water Supply SPA

8.2.1 Multipurpose Facility Resizing

Conceptually, the hydrology analysis for the water supply SPA is based on reservoir sizing as if the CVP was operated solely for the purpose of water supply. Because of geographical considerations in the CVP, single-reservoir scenarios had limited applicability because one reservoir typically could not provide water to the entire CVP service area. For this reason, multiple reservoirs are included in the water supply SPA.

The SPA for water supply is based, in part, on reservoir storage required to provide CVP water for irrigation, M&I, and wildlife refuge deliveries, and meeting CVPIA B2 requirements. Five multipurpose CVP reservoirs served the water supply purpose: Friant, New Melones, Trinity, Shasta, and Folsom. Friant provides for direct diversions into the Madera Canal and Friant Kern Canal. New Melones provides water for CVP contracts with Stockton East Water District and Central San Joaquin Water District, along with settlement obligations to Oakdale Irrigation District and South San Joaquin Irrigation District. Trinity, Shasta, and Folsom collectively provide water for CVP water users in the Sacramento and American River basins and exports at Jones Pumping Plant. The hydrology sizing model described in the *Hydrological Modeling Appendix* is used in determining what size each of these facilities had to be so that only the water supply purpose of the CVP was served. In addition, costs associated solely with B2 actions (79 TAF) are included in the water supply purpose SPA.²⁰ See Chapter 6 *Hydrological Modeling* (Table 6-2) for the multipurpose reservoir sizes included as part of the Water Supply SPA.

8.2.2 Multipurpose Facilities – Other

Other multipurpose facilities that could not be resized that are included as part of the Water Supply SPA are presented above in Section 8.1.2.

²⁰ Historically, the treatment of B2-related costs has not been included in the water supply purpose for the purpose of sub-allocating costs. Several options were considered for the CAS and it was decided that costs associated solely with B2 actions (79 TAF) would be included in the water supply purpose SPA.

8.2.3 Single-Purpose Facilities

Single-purpose facilities that are included as part of the Water Supply SPA include:

- Folsom South Canal
- Permanent Operation Facilities – Folsom South
- Folsom Dam Pumping Plant – Enhancement
- Folsom Pumps – 4160 Feeder Cable Replacement
- Clayton Canal & Pumping Plant
- Columbia Mowry Pumping Plant
- Contra Costa Canal
- Contra Costa Canal System – Deferred Maintenance
- Contra Costa Pumping Plant
- Contra Loma Dam & Reservoir
- Delta Cross Channel
- Delta-Mendota Canal
- Delta-Mendota Intake Channel
- Delta-Mendota Canal California Aqueduct Intertie
- Martinez Dam & Reservoir
- Permanent Operating Facilities – Tracy
- Shortcut Pipeline
- Tracy Pumping Plant
- Ygnacio Canal & Pumping Plant
- Friant-Kern Canal
- Madera Canal
- 4-M Water District
- Colusa County Water District Relift Pumping Plant
- Colusa Service Area – Cortina
- Colusa Service Area – Davis
- Colusa Service Area – Other
- Corning Canal
- Corning Canal Pumping Plant
- Corning Canal Relift Pumping Plant
- Glenn Valley Water District Relift Pumping Plant
- Dunnigan Water District Relift Pumping Plant
- Glide Irrigation District Relift Pumping Plant
- Kanawha Water District Relift Pumping Plant
- La Grande Water District
- Orland-Artois Water District Relift Pumping Plant
- Permanent Operating Facilities – Arbuckle
- Permanent Operating Facilities – Red Bluff
- Permanent Operating Facilities – Red Bluff Suboffice
- Permanent Operating Facilities – Willows
- Permanent Operating Facilities – Willows Suboffice
- Pilot Research Pumping Plant
- Proberta Water District Relift Pumping Plant
- Red Bluff Diversion Dam
- Tehama-Colusa Canal
- Westside Water District Relift Pumping Plant

- Arroyo Pasajero
- B.F. Sisk San Luis Dam & Reservoir
- Dos Amigos Pumping Plant
- Dos Amigos Switchyard
- Little Panoche Creek Detention Dam & Reservoir
- Los Banos Creek Detention Dam & Reservoir
- O'Neill Dam, Forebay & Wasteway
- Permanent Operating Facilities – State/Federal
- San Luis Canal
- San Luis Canal Turnouts
- San Luis Drain
- San Luis Switchyard
- William R. Gianelli Pumping-Generating Plant
- Coalinga Canal
- Los Banos Substation
- O'Neill Pumping Plant
- O'Neill Pumping Plant Intake Channel
- O'Neill Switchyard Station
- Permanent Operating Facilities – San Luis
- Pleasant Valley Pumping Plant
- San Luis Relift Pumping Plant – Pleasant Valley Water District
- San Luis Relift Pumping Plant – Westlands Water District
- Toyon Pipeline
- Clear Creek Conveyance
- Cow Creek Conveyance System
- Wintu Pumping Plant

8.2.4 Mitigation Activities

Mitigation activities that are included as part of the Water Supply SPA are presented above in Section 8.1.3.

8.3 Water Quality SPA

8.3.1 Multipurpose Facility Resizing

The Period 2 allocation treats the costs of meeting water quality requirements associated with D-1485 as joint costs assigned to all project purposes. Actions for salinity control and actions for compliance with State water quality standards exceeding D-1485 are assigned to the water quality purpose as non-reimbursable, consistent with the COA. The SPA reservoir storage required to satisfy water quality standards of D-1641 over those of D-1485 is analyzed by calculating the SPA for satisfying D-1641 and the SPA for satisfying D-1485 and then taking the difference between the two to determine the incremental storage cost. This difference in cost is used as the SPA cost estimate for the water quality purpose.

The Delta outflow that is required to meet water quality standards in the Delta depends on export level. In order to correctly identify the increment of SPA storage required to satisfy the D-1641 water quality standards compared to those in D-1485, the increment had to be defined given the

same level of export and delivery. See Chapter 6 *Hydrological Modeling* (Table 6-4) for the Water Quality SPA storage sizing requirements. New Melones is not included because the difference in cost of New Melones to meet D-1485 versus D-1641 is negligible. Friant did not serve a water quality purpose since water is not released from the reservoir to meet water quality standards under either D-1485 or D-1641.

8.3.2 Multipurpose Facilities – Other

Other multipurpose facilities that could not be resized that are included as part of the Water Quality SPA are listed above in Section 8.1.2.

8.3.3 Single-Purpose Facilities

There are no single-purpose facilities that are included as part of the Water Quality SPA.

8.3.4 Mitigation Activities

Mitigation activities that are included as part of the Water Quality SPA are presented above in Section 8.1.3.

8.4 Flood Control SPA

8.4.1 Multipurpose Facility Resizing

The CVP storage facilities operated for flood control are Trinity, Shasta, Folsom, New Melones, and Friant. All of these facilities except Trinity included flood control in their authorizing legislation. Trinity provides protection to downstream assets under guidelines set by the Trinity River Mainstem Fishery Restoration Record of Decision (ROD) and therefore is included as part of the flood control SPA.

Flood control rules limit the volume of water that may occupy space in a reservoir, mandating that a certain amount of empty space be maintained in order to accommodate anticipated seasonal runoff. The flood control rule method for determining the single-purpose size of a reservoir selects the largest value for required flood space in a reservoir from the historical flood control diagrams and adds this value to the minimum operating storage level in the reservoir, or dead pool, to calculate the SPA size for each reservoir. SPA sizes for the four flood control reservoirs are shown in Chapter 6 *Hydrological Modeling* (Table 6-6).

8.4.2 Multipurpose Facilities – Other

Other multipurpose facilities that could not be resized that are included as part of the Flood Control SPA are listed above in Section 8.1.2.

8.4.3 Single-Purpose Facilities

There are no single-purpose facilities that are included as part of the Flood Control SPA.

8.4.4 Mitigation Activities

Mitigation activities that are included as part of the Flood Control SPA are presented above in Section 8.1.3.

8.5 Power SPA

8.5.1 Power SPA – Thermal Facility

Under past policy and practice, Reclamation has typically used a hydropower-based single-purpose power alternative when conducting cost allocation studies. However, a nuclear power single-purpose power alternative has been used in prior CVP cost allocation studies based on the premise that the CVP authorizing legislation (50 Stat. 850) authorized Reclamation to construct a steam generator plant.

For the CVP Final CAS, a thermal (natural gas) power plant was determined as the most likely alternative constructed by the Federal government in the absence of CVP hydropower plants.²¹ Past precedent and authorizing CVP legislation has given Reclamation the discretion to use a thermal-based SPA for the power purpose of the CVP. The thermal-based SPA is configured and sized to incorporate existing CVP operational limitations and constraints, including the required associated transmission facilities needed to serve power customers.

Consequently, the thermal-based SPA reflected the current level of benefits associated with power generation and associated ancillary services provided by the CVP. The thermal power SPA is sized to generate enough energy to provide not only the amount of energy used by project beneficiaries but to account for system losses as well. The SPA cost for the thermal power facility include all costs, including design and construction, ownership costs, emission reduction credits, environmental mitigation, fuel (natural gas) costs, and other costs. The CVP power generation is estimated based on CalSim 2 and LTGEN modeling (see Section 6.4).

The CVP produces (at plant) an average of about 4,828.74 GWh/year. The capacity of a thermal SPA power plant needed to produce the same amount of energy was estimated to be 1,190 MW. The type of thermal plant used to estimate facility capitalized costs was a 500 MW combined cycle plant without duct-firing. The heat rate used to estimate SPA costs was 6,750 Btu/kWh (British thermal units/kilowatt hours). Life-cycle costs are based on a period of 100 years using an interest rate of 3.25 percent and assuming a 40-year lifespan of a typical plant. The cost of fuel used for the analysis was \$4.24/MMBtu (million British thermal units) for natural gas.

8.5.2 Multipurpose Facilities

There are no multipurpose facilities included as part of the Power SPA.

²¹ Because the Power SPA does not involve re-operation of existing CVP hydropower facilities, no hydrology analysis was required.

8.5.3 Single-Purpose Facilities

The only single-purpose facilities that are included as part of the Power SPA are select transmission facilities owned and operated by WAPA.

8.5.4 Mitigation Activities

Mitigation activities that are included as part of the Power SPA are presented above in Section 8.1.3.

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Chapter 9. Cost Estimates

This chapter outlines the cost estimating methods developed at an appraisal level for the CVP CAS and presents the cost estimates used as inputs to the SCRB analysis. More detailed cost estimate results are presented in the *Cost Estimates Summary Tables Appendix*.

9.1 Cost Estimating Overview

The SCRB methodology requires several sets of cost estimate inputs. These include total project costs, as well as separable costs and SPA costs by authorized purpose. The cost analysis is conducted at the facility level to account for the complexity and quantity for all of the CVP features. The facility-level analysis also facilitates the water ratesetting process described in Chapter 12, *Implementation of the Final Cost Allocation*.

The SCRB methodology requires separate cost estimates for (1) construction, (2) IDC, and (3) OM&R of project facilities over the 100-year period. The sum of these three cost components is considered the total cost of any given facility. Although these cost components are tracked separately, the calculations within the SCRB process are based on total costs of all three cost components over a 100-year period. The approach used to estimate each type of cost varies as explained below.

SCRB also requires that all cost estimates be in constant price level to allow a consistent comparison. As a result, all cost estimates are indexed to the base year 2013 (see Section 5.3). The nominal (unindexed) cost of facilities are tracked in order to reconcile to actual costs in the CVP financial records.

There are several fundamental tenets underlying the cost estimating used for the CAS.

- Costs are estimated at an appraisal level.
- Cost indexing is required to adjust price levels to the CAS base year (2013).
- Estimated facility costs are based on a wide range of data sources, including Reclamation financial reports, historical construction pricing, material quantities from completion reports, and contract administration documentation.

9.1.1 Appraisal-Level Analysis

Reclamation uses several different levels of detail when estimating costs in the context of project planning and development, including preliminary, appraisal, and feasibility levels within the planning phase of Reclamation's design process (Reclamation 2007). Of these approaches, appraisal and feasibility levels have been deemed suitable for the purpose of cost allocation (Reclamation 2013b). Appraisal level are used due to the number of facilities being considered in this CAS. A feasibility-level analysis for the CAS would require further refinement of the cost estimates, including the need for detailed estimates created during the design, solicitation, and construction stages of each facility.

This would have significantly increased the complexity, cost, and reproducibility of the CAS cost estimates.

The appraisal-level analysis is most pertinent in the context of facility re-sizing, which is integral to the SPA and separable cost analysis required for SCRB. In an appraisal-level analysis, a minimum of roughly 85 percent of the total costs to be estimated should be identified. For the CAS, costs are assigned to the identified line items. The remaining 15 percent of costs are allocated to unlisted items or contingencies for the facilities that required re-sizing. Historical documentation of the costs to construct each of the facilities are used to establish the appropriate number of line items.

9.1.2 Cost Indexing

The CVP has been under construction for over 70 years; therefore the plant-in-service costs²² in the financial statements have widely varying cost bases. In order to compare costs of the CVP that occur at different points in time, nominal costs of project facilities are converted to a common price level corresponding to the CAS base year of 2013 using the Building Costs Index (BCI).

9.2 Cost Categories

9.2.1 Construction Costs

Construction costs are the costs of labor, land, materials, and financing to plan, design, and construct a project facility or feature for the purpose of providing new or additional benefits. Construction costs of a project feature include both contract costs and non-contract costs, such as direct labor, direct materials, and indirect costs through the point the facility is placed into plant-in-service. Construction costs exclude IDC.²³ Project construction costs are estimated using information from several different data sources, mainly existing financial records and contract administration records.

9.2.2 Interest During Construction Costs

IDC represents the cost to finance the construction of projects.²⁴ IDC is reimbursable by certain project purposes (or beneficiaries), namely M&I and commercial power. As such, only those facilities that serve M&I and commercial power include IDC for repayment in Schedule 1 of the CVP financial statements. For example, facilities that solely serve irrigation do not include IDC in Schedule 1. To ensure that all facilities are evaluated consistently in the SCRB analysis, estimates for IDC are required for each facility based on the total cost of the facility.

²² In order to index nominal costs to the base year, the date when each project facility began to provide beneficial use is documented. This is referred to as the plant-in-service date.

²³ Plant-in-service values presented in Schedule 1 of the CVP financial statements include both construction costs and interest during construction, which required that IDC be deducted from the plant-in-service values to derive construction-only costs.

²⁴ Specifically, IDC represents interest accumulated during the construction period. This interest is added to the cost of the long-term asset so that the interest is not recognized in the current period as interest expense. Instead, the interest becomes a fixed asset and is included in the depreciation of the long-term asset.

To ensure that IDC is not double counted in certain facilities, actual IDC is first deducted from facilities that have it recorded in the 2013 Financial Statements, then IDC is estimated for all facilities using annual compound interest. For consistency with Reclamation Policy, IDC is not included for facilities constructed prior to 1955 and simple interest calculations are used for construction that occurred between 1955 and 1982. The CAS discount rate of 3.25 percent is used in calculating estimated IDC.

9.2.3 Operation, Maintenance, and Replacement Costs

OM&R cost estimates are required for each facility for the SCRB analysis. Due to the large number of facilities and data gaps for individual facilities, the OM&R cost analysis is conducted based on representative facility types (or categories). The six categories of facilities included (1) canals, (2) dams and reservoirs with subcategories of embankment and concrete dams, (3) pumping plants and power plants, (4) switchyards, (5) general project soft costs, and (6) WAPA facilities.

Annual OM&R expenses are estimated for each representative facility using a two-step process. The first step determines the estimated O&M cost by representative facility. This is accomplished by averaging indexed O&M expenditures for the most recent 10 years of reported costs to arrive at an average annual value. Reclamation's O&M index is used for this purpose (Reclamation 2017). The second step determines the estimated replacement costs for a representative facility in each O&M facility category. The estimates exclude overhead costs that are not attributable to any given facility or purpose. Overhead costs are treated as joint costs of the CVP.

Determining replacement costs is accomplished by estimating the cost and timing of replacement for each item. The expected occurrence cycles are determined from the Reclamation/WAPA Replacement Book (2006). Large scale rehabilitation, maintenance, replacement, and extraordinary maintenance (RAX) activities occur on a predictable schedule. Subsequently, for facilities in each category, estimated replacement costs are calculated by pro-rating replacement costs for the representative facility based on the relative magnitude of construction costs of the representative facility compared to all facilities in the same category. The results from steps one (O&M) and two (replacements) are added together to produce each facility's total OM&R cost. Total OM&R cost estimates are capitalized over the 100-year period of analysis using the project interest rate of 3.25 percent.

9.3 Cost Estimating Methodology

Cost estimates for total facility costs, separable costs, and SPA costs are required from the SCRB analysis. The methods used to develop these cost estimates vary by type of facility. Each facility in the CVP is characterized as either single-purpose or multipurpose. Single-purpose facilities are considered separable to the purpose they serve. For example, the total cost of a single-purpose water supply canal is a separable cost to the water supply purpose. Single-purpose facilities are also assigned in their entirety to each applicable SPA. The cost estimating process for multipurpose facilities requires the hypothetical re-sizing of the facility for each authorized purpose in the separable cost and SPA cost analyses.

9.3.1 Costs Used in the SCRB Process

Total Facility Costs

Total project costs are estimated for all CAS facilities. Total project costs serve as the starting point for facility re-sizing efforts described below. Separate cost estimates are developed for construction, IDC, and OM&R, which together represent total costs. The plant-in-service date of each facility is used to index nominal costs to the base year. Plant additions and RAX costs that occurred after the plant-in-service date are considered construction costs and indexed to the base year from the year in which they occur.

Separable Cost Analysis

Separable costs are project costs that are attributable to a single purpose. Separable costs for each authorized purpose are calculated as the difference between total costs of a multipurpose project and the cost of the project with that purpose excluded.

The cost of single-purpose facilities is separable to the purpose those facilities serve. The separable costs of a multipurpose facility's costs are evaluated by determining if the multipurpose facility can be re-sized as a result of eliminating each authorized purpose from the multipurpose project. Multipurpose facilities that cannot be re-sized by removing any authorized purpose are considered to be non-diminishable. Non-diminishable facilities are treated as joint costs in the SCRB analysis. Multipurpose facilities that could be re-sized based on the removal of authorized purposes are defined as diminishable. Friant Dam and Los Banos Creek Detention Dam are the only multipurpose dams considered diminishable, and which do not include a power purpose. As a result, these dams could be re-sized in the separable cost analysis. It was determined that these facilities should be re-sized and would not incur joint costs. Total costs of Friant Dam are distributed between water supply (58.56 percent) and flood control (41.44 percent), while Los Banos Creek Detention Dam costs are distributed to water supply (24.06 percent), flood control (68.66 percent), and recreation (7.28 percent).

Single-Purpose Alternative Cost Analysis

The SPA is the least cost alternative which would likely be built as a single-purpose Federal project, and that would provide the same benefit to each purpose individually as the multipurpose project provides. For the purpose of the CAS, the following four SPAs are developed: (1) water supply, (2) flood control, (3) water quality, and (4) power. All of the SPAs except for power are based on re-sizing of existing CVP facilities. The power SPA is based on a thermal natural gas-powered facility tying into the existing CVP power transmission grid. The estimation of costs associated with the thermal power SPA is discussed below.

With exception of the power SPA, all single-purpose facilities are assigned to the applicable SPA they serve. Non-diminishable, multipurpose facilities that could not be attributed to any one purpose are included at full scale in all SPA costs. Each diminishable multipurpose facility is re-sized to serve each respective authorized purpose of the CVP.

Multipurpose Facilities – Diminishable

The SCRB process requires that existing facilities be re-sized, if possible, to calculate costs of the SPA for each project purpose and to estimate separable costs of each purpose. Approximately 30 facilities on the CAS Facility List are treated as multipurpose features of the CVP. The multipurpose facilities identified as diminishable facilities are re-sized and corresponding cost estimates are developed. Table 9-1 presents the diminishable facilities considered and treatment in the CAS.

Developing cost estimates for re-sized facilities involved multiple steps. The first step documents the costs required to construct the facility, which identifies the construction contracts and their subcomponents for each facility throughout the facility's life and use of Reclamation's financial reports. Next, estimating the new height of the dam and reservoir was determined using the water volumes needed to provide the same level of benefits for each purpose. This would help determine the volume, square footage, and change of each major cost driver (MCD) (i.e., concrete and other large expenses) from the original construction cost.

Cost estimations are generated by identifying and adjusting the MCD, using AutoCAD and LIDAR surveying models, developing cost curves, and developing engineering and construction inspecting-based assumptions on the re-sized quantities to arrive at total estimated costs. The MCDs for each contract are separated by identifying the line items that produced at least 85 percent of the costs.

Cost curves based on the MCDs for each facility allows for re-sizing of the facilities while accounting for unit cost variations due to economies of scale and regional influences. The proportional cost is determined by comparing the original facility to the scaled facility.

All of the diminishable multipurpose facilities are dams that store water and include power facilities, except for Friant Dam and Los Banos Creek Detention Dam. On further evaluation, for multipurpose facilities with a power purpose, it was found that despite these facilities' original designations as diminishable, it was determined that the facility sizes would not vary in the multipurpose without cost analysis. In other words, eliminating any purpose from these multipurpose facilities would not result in a re-sized facility because the facility would still need to provide the benefits of all remaining purposes. Therefore, regardless of the purpose removed, the facility size could not be diminished without affecting the benefits of one or more of the remaining purposes. Accordingly, there are no separable costs of these facilities.

Additional consideration was required for determining separable costs to the power purpose with respect to specific power features (as opposed to facility sizing discussed below). Power components of multipurpose facilities (primarily power plants and switchyards) are considered to be bolt-on accessories and separable to the power purpose. An adjustment to the multipurpose facility dam cost was considered to account for the material used to replace the bolt-on accessories, and it was determined any cost change would be less than unlisted items and contingencies for the identified dams. Consequently, the cost of removing the power purpose from these multipurpose dams was determined to be negligible. This approach resulted in no separable costs assigned to the power purpose from the multipurpose dams in the SCRB analysis. The only separable costs of the power purpose were the accumulated cost of single-purpose power facilities.

Table 9-1. Diminishable Multipurpose Facilities

Diminishable Facilities	Treatment in CAS Analysis
Shasta Dam	For SPA analysis, these facilities were re-sized based on hydrology. For separable costs, the power purpose necessitated the same size dam.
Folsom Dam	For SPA analysis, these facilities were re-sized based on hydrology. For separable costs, the power purpose necessitated the same size dam.
New Melones Dam	For SPA analysis, these facilities were re-sized based on hydrology. For separable costs, the power purpose necessitated the same size dam.
Trinity Dam	For SPA analysis, these facilities were re-sized based on hydrology. For separable costs, the power purpose necessitated the same size dam.
Friant Dam and Permanent Operating Facilities	For SPA analysis, this facility was re-sized based on hydrology. Because Friant only serves two project purposes, water supply and flood control, all Friant Dam and reservoir costs were allocated as separable costs to these two functions.
Nimbus Dam	For the SPA analysis, this facility was re-sized. There are no separable costs to water supply. There are separable costs to power, which consists of the power generating equipment.
Los Banos Creek Detention Dam	For the SPA analysis, this facility was re-sized based on the separable cost factors. Because Los Banos Dam only serves two project purposes, water supply and flood control, all Los Banos Dam and reservoir costs were allocated as separable costs to these two functions.

Multipurpose Facilities – Non-Diminishable

Non-diminishable facilities are facilities for which the cost of the facility does not change if any authorized purpose is removed from the project. The full cost of non-diminishable facilities is included in each SPA because there are no costs considered separable to any one purpose. Table 9-2 provides the list of non-diminishable facilities and summarizes the reasons for the determinations.

Table 9-2. Non-Diminishable Multipurpose Facilities

Non-Diminishable Facilities	Reason for Non-Diminishable Designation¹
CVP radio rain gauges	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.
Shasta radio rain gauges	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.
Trinity radio rain gauges	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.
Shasta radio stream gauges	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.

Non-Diminishable Facilities	Reason for Non-Diminishable Designation¹
Trinity radio stream gauges	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.
CVP radio network	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.
CVP telemetering equipment	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.
Centralized water and power systems control	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.
Keswick-Carr Microwave Systems	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.
Shasta permanent operating facilities	Provided a function for the named facility and the size remained relatively the same regardless of the purpose
Union Hills Reservoir ¹	Land obtained for the facility would not change regardless of size or purpose
Clear Creek Tunnel	Tunnel costs would not significantly change if the tunnel size was reduced because of the custom equipment and complexity of the construction.
Spring Creek Debris Dam and Reservoir	The dam was originally sized and constructed to hold back contaminated water from upstream mining and release as needed to mitigate stream poll. None of the purposes served by this facility could be altered, and therefore the facility could not be re-sized, resulting the total cost of this facility to be joint costs.
Whiskeytown Dam and Reservoir	Costs were not separable to a single purpose due to operational requirements, unclear required volumes of water for specific purposes, and could not be built smaller for water supply, power, or flood control individually based on available data.

1. Although a non-diminishable facility, Folsom Sly Park/Union Hills Reservoir is not included in any SPAs because it does not support the benefits of any project purpose.

9.3.2 Mitigation Costs

Mitigation costs are treated as joint project costs in the CVP CAS. CVPIA facility costs are excluded from the CAS and are being handled through a separate process. For more information on mitigation costs, refer to Section 5.11.

9.3.3 Direct Assigned Costs

Direct assigned costs are costs that have been identified, legislatively or by agreement, as having a clear direction regarding repayment. The costs of direct assigned features are excluded from the SCRB process. Cost estimates for project facilities with direct assigned costs are adjusted to remove direct assigned costs. Generally, the total cost of each project facility is pro-rated based on the proportion of unindexed facility cost that is direct assigned relative to total project cost. Direct

assigned costs are not treated as separable costs to any purpose or included in any of the SPA cost estimates. For more information on direct assigned costs, refer to Section 3.3.

9.4 CAS Cost Estimates

As described above, the cost estimating process for the CAS resulted in three sets of indexed cost estimates: (1) total facility costs, (2) cost estimates for each respective SPA (i.e., water supply, flood control, water quality, and power), and (3) cost estimates of the multipurpose project with each of the individual purposes removed (i.e., the multipurpose without purpose project estimates). For each set of costs, all three cost components are estimated, namely construction, IDC, and OM&R, which are used as inputs to the SCRB analysis.

As shown in Table 9-3, the total cost of the CVP that is used in the SCRB process is approximately \$17.0 billion (2013 dollars), which is comprised of construction costs (\$11.2 billion), IDC (\$476.9 million), and the present value of annual OM&R costs (\$5.3 billion). These cost estimates exclude direct assigned costs excluded from the SCRB process.

Table 9-3 also shows the estimate of separable costs by purpose. Separable costs are computed as the difference of total project cost and the omitted-purpose cost for each purpose. Accounting for all three cost components, the total separable costs attributed to each purpose is: water supply (\$6.1 billion), power (\$4.6 billion), flood control (\$171.4 million), recreation (\$15.1 million), water quality (\$0), fish and wildlife enhancement (\$0), and navigation (\$0).

Table 9-3. SCRB Total and Separable Cost Estimates (2013 Dollars)

Purpose	Total Cost	Multipurpose Without Cost	Separable Costs
Construction	\$11,183,353,145		
Water Supply		\$6,727,205,449	\$4,456,147,695
Power		\$9,149,317,479	\$2,034,035,666
Flood Control		\$11,033,241,465	\$150,111,679
Recreation		\$11,169,443,333	\$13,909,811
Water Quality		\$11,183,353,145	\$0
Fish and Wildlife Enhancement		\$11,183,353,145	\$0
Navigation		\$11,183,353,145	\$0

Purpose	Total Cost	Multipurpose Without Cost	Separable Costs
IDC	\$476,904,929		
Water Supply		\$303,477,679	\$173,427,250
Power		\$356,116,945	\$120,787,985
Flood Control		\$469,177,350	\$7,727,579
Recreation		\$476,725,189	\$179,740
Water Quality		\$476,904,929	\$0
Fish and Wildlife Enhancement		\$476,904,929	\$0
Navigation		\$476,904,929	\$0
OM&R	\$5,337,474,656		
Water Supply		\$3,909,489,262	\$1,427,985,394
Power		\$2,926,261,359	\$2,411,213,297
Flood Control		\$5,323,898,239	\$13,576,417
Recreation		\$5,336,423,175	\$1,051,481
Water Quality		\$5,337,474,656	\$0
Fish and Wildlife Enhancement		\$5,337,474,656	\$0
Navigation		\$5,337,474,656	\$0
TOTAL CVP	\$16,997,732,730		
Water Supply		\$10,940,172,390	\$6,057,560,340
Power		\$12,431,695,782	\$4,566,036,948

Purpose	Total Cost	Multipurpose Without Cost	Separable Costs
Flood Control		\$16,826,317,054	\$171,415,676
Recreation		\$16,982,591,697	\$15,141,033
Water Quality		\$16,997,732,730	\$0
Fish and Wildlife Enhancement		\$16,997,732,730	\$0
Navigation		\$16,997,732,730	\$0

Table 9-4 presents the SPA cost estimates. Accounting for all three cost components, the total SPA cost by purpose: water supply SPA (\$11.0 billion), power SPA (\$9.4 billion), flood control (\$5.3 billion), and water quality (\$4.1 billion). No SPA cost estimates were required for fish and wildlife enhancement, recreation, and navigation.

Table 9-4. Total Estimated SPA Costs by Purpose¹ (2013 Dollars)

Type of Cost	Water Supply SPA	Power SPA	Flood Control SPA	Water Quality SPA
Construction	\$7,830,971,993	\$1,617,562,352	\$3,745,324,665	\$2,643,732,657
IDC	\$310,143,077	\$76,621,927	\$152,354,756	\$106,206,497
OM&R	\$2,831,470,890	\$7,681,334,972	\$1,429,937,241	\$1,343,915,357
Total Cost	\$10,972,585,960	\$9,375,519,251	\$5,327,616,662	\$4,093,854,511

1. SPA cost estimates were not developed for the following purposes: fish and wildlife enhancement, recreation, and navigation.

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Chapter 10. Cost Allocation Results (Period 2)

This chapter presents the Period 2 cost allocation, which reflects expected future operation and benefits of the CVP. The results of the Period 2 allocation are based on the SCRB analysis and related sub-allocation process, as well as the costs, benefits, and assumptions outlined throughout this report. In addition, this chapter also carries the allocation through to the facility level to facilitate the water ratesetting process.

10.1 Application of SCRB to the CAS

The SCRB method is used as the starting point to allocate costs to the authorized purposes of the CVP (see Chapter 4, *Cost Allocation Methodology*). However, allocation of costs at the purpose level does not define repayment responsibilities; therefore, sub-allocation of costs is necessary. SCRB requires estimation of the benefits for each project purpose and the costs for each SPA that provides comparable benefits. The lesser of the benefits estimated for each purpose and SPA cost sets the limit of the amount that can be allocated to a particular project purpose. This is defined as the justifiable expenditure. The next step is to identify the separable costs for each project purpose, which are costs attributed to a single purpose.

Separable costs are calculated as the difference in the total multipurpose project cost and the cost of the project without a particular purpose included. The separable costs for each project purpose are then deducted from the justifiable expenditures for each purpose to derive the remaining justifiable expenditures. The remaining joint costs of the project are the total project costs less the total separable costs. Remaining joint costs are allocated to each project purpose based on the percentage share of the remaining justifiable expenditures (i.e., joint cost factors). The allocation of separable costs and remaining joint costs for each project purpose are added together to derive the total cost allocated to each purpose.

The SCRB analysis excludes direct assigned costs where repayment responsibilities have been set either through legislation and/or agreement (see Section 3.3). Specifically, where Congress has provided clear direction regarding the reimbursement of specific project features, or where Reclamation has entered into agreements regarding repayment, the costs of such features are deducted prior to implementing the SCRB analysis. After the SCRB analysis is completed, direct assigned costs are added back to the appropriate repayment category based on the provisions in the associated legislation or agreement.

The results of the SCRB analysis are shown in Table 10-1 (2013 dollars). The total SCRB costs subject to the cost allocation is approximately \$17.0 billion. Based on the comparison of economic benefits and SPA costs, the driver of justifiable expenditure for each project purpose is as follows:²⁵

²⁵ The purposes not listed below (i.e., recreation, navigation, and fish and wildlife enhancement) do not share in joint costs, so they are not considered in determining justifiable expenditure across project purposes.

- Water Supply: SPA costs (\$11.0 billion)
- Power: Benefits (\$5.7 billion)
- Flood Control: SPA costs (\$5.3 billion)
- Water Quality: Benefits (\$1.5 billion)

The separable costs across project purposes are as follows:

- Water Supply: \$6.1 billion
- Power: \$4.6 billion
- Flood Control: \$171.4 million
- Water Quality: \$0
- Recreation: \$15.1 million
- Navigation: \$0
- Fish and Wildlife Enhancement: \$0

The joint cost factors²⁶ (shown under the row titled “Remaining Justifiable Expenditure Percentage by Purpose” in Table 10-1) are calculated by dividing the remaining justifiable expenditures for each purpose by the total remaining justifiable expenditure. These factors are applied to the joint cost pool totaling approximately \$6.2 billion (2013 dollars) and are the only numbers from the SCRB process that are used in the facility-level allocation presented in Section 10.2.

- Water Supply: 38.74 percent
- Power: 9.12 percent
- Flood Control: 40.64 percent
- Water Quality: 11.49 percent
- Recreation: NA
- Navigation: NA
- Fish and Wildlife Enhancement: NA

The total allocation of costs represents the sum of separable and joint costs. The total allocated costs across project purposes is as follows (2013 dollars):

- Water Supply: \$8.4 billion
- Power: \$5.1 billion
- Flood Control: \$2.7 billion
- Water Quality: \$710.9 million

²⁶ Total may not sum to 100 percent due to rounding.

- Recreation: \$15.1 million
- Navigation: \$0
- Fish and Wildlife Enhancement: \$0

Table 10-1. SCRB Results – Period 2 (2013 Dollars)

SCRB Component	Water Supply	Power	Flood Control	Fish & Wildlife Enhancement	Recreation	Navigation	Water Quality	Total
Total Costs to Be Allocated								
Construction								\$11,183,353,145
IDC								\$476,904,929
OM&R								\$5,337,474,656
Total								\$16,997,732,730
Economic Benefits								
Benefits by Purpose	\$22,702,486,987	\$5,723,645,968	\$37,992,213,836	\$0	\$0	\$0	\$1,457,558,518	\$67,875,905,309
SPA Costs								
Construction	\$7,830,971,993	\$1,617,562,352	\$3,745,324,665	\$0	\$0	\$0	\$2,643,732,657	\$15,837,591,667
IDC	\$310,143,077	\$76,621,927	\$152,354,756	\$0	\$0	\$0	\$106,206,497	\$645,326,257
OM&R	\$2,831,470,890	\$7,681,334,972	\$1,429,937,241	\$0	\$0	\$0	\$1,343,915,357	\$13,286,658,460
Total	\$10,972,585,960	\$9,375,519,251	\$5,327,616,662	\$0	\$0	\$0	\$4,093,854,511	\$29,769,576,384
Justifiable Expenditure ¹								
Justifiable Expenditure by Purpose	\$10,972,585,960	\$5,723,645,968	\$5,327,616,662	\$0	\$0	\$0	\$1,457,558,518	\$23,481,407,108
Separable Costs ²								
Construction	\$4,456,147,695	\$2,034,035,666	\$150,111,679	\$0	\$13,909,811	\$0	\$0	\$6,654,204,851
IDC	\$173,427,250	\$120,787,985	\$7,727,579	\$0	\$179,740	\$0	\$0	\$302,122,554
OM&R	\$1,427,985,394	\$2,411,213,297	\$13,576,417	\$0	\$1,051,481	\$0	\$0	\$3,853,826,589
Total	\$6,057,560,339	\$4,566,036,948	\$171,415,675	\$0	\$15,141,032	\$0	\$0	\$10,810,153,994
Remaining Justifiable Expenditure ³								
Remaining Justifiable Expenditure, by Purpose	\$4,915,025,621	\$1,157,609,020	\$5,156,200,987	\$0	\$0	\$0	\$1,457,558,518	\$12,686,394,146
Remaining Justifiable Expenditure Percentage ⁴								

SCRB Component	Water Supply	Power	Flood Control	Fish & Wildlife Enhance-ment	Recrea-tion	Navigation	Water Quality	Total
Remaining Justifiable Expenditure Percentage, by Purpose	38.74%	9.12%	40.64%	0.00%	0.00%	0.00%	11.49%	100.00%
Allocation of Joint Costs								
Construction	\$1,754,705,278	\$413,276,176	\$1,840,806,651	\$0	\$0	\$0	\$520,360,641	\$4,529,148,294
IDC	\$67,715,062	\$15,948,560	\$71,037,762	\$0	\$0	\$0	\$20,081,009	\$174,782,375
OM&R	\$574,802,352	\$135,380,067	\$603,007,244	\$0	\$0	\$0	\$170,458,552	\$1,483,648,067
Total	\$2,397,222,692	\$564,604,803	\$2,514,851,657	\$0	\$0	\$0	\$710,900,202	\$6,187,578,736
Allocation of Total Costs								
Construction	\$6,210,852,973	\$2,447,311,842	\$1,990,918,330	\$0	\$13,909,811	\$0	\$520,360,641	\$11,183,353,597
IDC	\$241,142,312	\$136,736,545	\$78,765,341	\$0	\$179,740	\$0	\$20,081,009	\$476,904,947
OM&R	\$2,002,787,746	\$2,546,593,364	\$616,583,661	\$0	\$1,051,481	\$0	\$170,458,552	\$5,337,474,804
Total	\$8,454,783,031	\$5,130,641,751	\$2,686,267,332	\$0	\$15,141,032	\$0	\$710,900,202	\$16,997,733,348

1. Lesser of Benefits or SPA Costs
2. Total Multipurpose Cost minus Multipurpose w/o each purpose
3. Justifiable Expenditure minus Separable Costs
4. Also referred to as joint cost allocation factors

10.2 Facility-Level Cost Allocation

To accommodate Reclamation's ratesetting process, the costs in Period 2 are allocated separately by facility. Facility-level cost allocation factors are estimated for each project feature based on separable costs for each facility and the allocation of joint costs using the joint cost factors derived from the SCRB process. The composite allocation factors (incorporating both separable and joint costs) are used to allocate total cost to the authorized purposes for each facility. Costs allocated to the water supply and power purposes are then sub-allocated to the applicable sub-purposes for repayment. Lastly, the direct assigned costs are allocated to the appropriate repayment category. The *Cost Allocation Spreadsheet Appendix* to this report presents the summary tables that represent the facility-level allocation for Period 2.

The development of facility-level cost allocation factors involved several steps. First, the remaining joint costs by facility are estimated by subtracting the sum of the separable costs from the total cost to be allocated for each facility (*Cost Allocation Spreadsheet Appendix*, Table 1). The remaining joint costs are then allocated to the authorized purposes using the joint cost allocation factors which are calculated in the SCRB process (*Cost Allocation Spreadsheet Appendix*, Table 1). Next, the total allocated costs by authorized purposes are estimated for each facility by summing the separable costs and that portion of joint costs allocated to the purpose (*Cost Allocation Spreadsheet Appendix*, Table 2).

Finally, the composite cost allocation factors are derived by dividing the total cost allocated to each purpose by the total cost of the feature (*Cost Allocation Spreadsheet Appendix*, Table 2). These composite factors remain constant for the Period 2 allocation.

10.3 Sub-Allocation of Costs

The sub-allocation of water and power costs is necessary to assign costs to the applicable repayment category for water ratesetting purposes. Because the ratesetting calculations are based on nominal costs, the sub-allocation process uses unindexed costs (*Cost Allocation Spreadsheet Appendix*, Tables 3, 4, and 5). To accommodate the sub-allocation process, total unindexed cost for each facility are multiplied by the facility-level composite cost allocation factors to distribute the cost among authorized purposes (*Cost Allocation Spreadsheet Appendix*, Tables 6, 7, and 8). Repayment responsibilities for costs allocated to the water supply and power purposes are determined through the sub-allocation process described below.

10.3.1 Water Supply Cost Sub-Allocation

For the Period 2 cost allocation, water supply costs are sub-allocated to the following sub-purposes: irrigation, M&I, wildlife refuge, and CVPIA functions.²⁷ The water supply sub-allocation is performed on the basis of water use (measured in acre feet). Water supply sub-allocation factors

²⁷ The inclusion of B2 water supply as a water supply sub-purpose is a new concept. B2 releases that were included in the water supply purpose relate to releases under excess conditions that could not be recaptured for other purposes, such as water quality. In other words, only those B2 releases that flow to the ocean because they could not be used for any other purpose were included as part of the water supply purpose.

representing water use distributions are estimated for 15 different delivery areas and operational contexts (*Cost Allocation Spreadsheet Appendix*, Table 9). Because Period 2 represents a prospective analysis, the water use data is based primarily on CalSim 2 modeling, which reflects current/projected operations and regulatory constraints.

Information on B2 water supplies are derived from CVPIA water accounting records reported by the Central Valley Operations (CVO) office. The various water supply sub-allocation distributions are assigned to each CVP facility that has a water supply allocation based on location and operational considerations. The sub-allocation of water supply costs (construction, IDC, and OM&R) by facility are shown in *Cost Allocation Spreadsheet Appendix*, Tables 10, 11, and 12.

10.3.1.1 Sub-allocation of Wildlife Refuge and B2 Water Supply Costs

The water supply sub-allocation involves additional sub-allocation of costs assigned to the wildlife refuge and B2 sub-purposes due to differing repayment requirements. Specifically, refuge water supply costs are sub-allocated to Level 2 and Incremental Level 4 refuge deliveries. CalSim 2 provides projected delivery quantities for Level 2 refuge water supplies. Projected Incremental Level 4 refuge deliveries are estimated based on a 10-year average of historic refuge delivery data.

Additional consideration of Incremental Level 4 deliveries in the water supply sub-allocation is required in order to allocate costs to applicable facilities and to avoid double-counting of water across water supply sub-purposes. Incremental Level 4 water delivered by Reclamation is derived from non-CVP sources, including project water that was originally allocated to CVP water users but subsequently permanently or temporarily assigned or transferred to the refuge program. In cases where reimbursable project water is transferred for the purposes of meeting non-reimbursable Incremental Level 4 demands, these water supplies are modeled as irrigation and/or M&I deliveries in CalSim and the water supply sub-allocation process. This modeling is appropriate because the water users are charged and compensated for that water, and it should not be sub-allocated to Incremental Level 4. There is non-CVP derived water that utilizes south-of-Delta CVP conveyance facilities to meet Incremental Level 4 demands, namely the Delta-Mendota Canal, which is accounted for in the water supply sub-allocation process.²⁸ Specifically, it is estimated that 10 percent of Incremental Level 4 south-of-Delta refuge deliveries are derived from non-CVP sources and are conveyed through the Delta-Mendota Canal, which is reflected in the water supply sub-allocation distributions.

Costs allocated to Incremental Level 4 refuge water supplies are non-reimbursable and are sub-allocated 75 percent to the Federal government and 25 percent to the State of California. Costs allocated to Level 2 refuge water and B2 water are considered reimbursable in the Period 2 allocation, thereby assigned to water and power users only. These costs are sub-allocated to irrigation, M&I, and commercial power based on the proportion of reimbursable costs across the three sub-purposes as shown in Section 10.5, Table 10-2, and the *Cost Allocation Spreadsheet Appendix*, Table 16. The *Cost Allocation Spreadsheet Appendix* Tables 17, 18, and 19 present the sub-allocation of reimbursable refuge and B2 water supply costs.

²⁸ Incremental Level 4 water that comes from north-of-Delta sources does not utilize CVP conveyance facilities.

10.3.2 Power Cost Sub-Allocation

For Period 2, costs allocated to the power purpose are sub-allocated between commercial power and project use energy. Power costs that are sub-allocated to the PUE function are subject to the water supply sub-allocation process described above in Section 10.3.1. The power sub-allocation in Period 2 is based on LTGEN modeling results which are derived from CalSim 2 output, accounting for adjustments for the San Luis Unit.²⁹

The power sub-allocation utilizes one uniform sub-allocation distribution across all power facilities based on system-wide power generation and use with one exception.³⁰ Specifically, average annual project use energy consumption (minus San Luis Unit generation) is estimated to be 1,033.71 GWh, and average annual CVP power generation is estimated to be 4,514.60 GWh resulting in the following power sub-allocation factors: commercial power (77.103%) and PUE (22.897%).³¹ The average annual PUE is the total energy use at the pumping plant minus the generation of the San Luis Unit. The average annual CVP power generation is the at-plant generation minus regeneration by the San Luis Unit and estimated transmission losses. The sub-allocation factors are calculated using the following equations:

$$\begin{aligned} \text{Commercial Power Factor} &= \frac{\text{Average Annual CVP Power Generation}}{\text{Average Annual CVP Power Generation} + \text{Average Annual Project Use Energy Consumption}} \\ \text{PUE Factor} &= \frac{\text{Average Annual Project Use Energy Consumption}}{\text{Average Annual CVP Power Generation} + \text{Average Annual Project Use Energy Consumption}} \end{aligned}$$

The sub-allocation of power costs by facility is shown in *Cost Allocation Spreadsheet Appendix* Tables 13, 14, and 15.

10.4 Allocation of Direct Assigned Costs

Direct assigned costs are incorporated into the cost allocation after the water supply and power sub-allocation is completed. Only direct assigned costs that are plant-in-service (i.e., construction) are assigned to sub-purposes. Estimates of IDC and OM&R are not developed for direct assigned costs. Direct assigned costs are designated as either reimbursable or non-reimbursable based on legislation and/or agreements (see Section 3.3). The sub-allocation of direct assigned costs by facility is shown in *Cost Allocation Spreadsheet Appendix* Table 20. Direct assigned costs categorized as reimbursable are further sub-allocated to the reimbursable sub-purposes based on the distribution of reimbursable construction costs shown in Section 10.5 (Table 10-2).

²⁹ For the purposes of the Period 2 allocation, power generation at O'Neill and Giannelli pump-generation facilities in the San Luis Unit (117.038 GWh annually) was removed from power sub-allocation calculations because these facilities serve the water supply purpose only.

³⁰ The costs associated with the Pacific Alternating Current Intertie (PACI) transmission system is sub-allocated 100 percent to commercial power.

³¹ The calculated sub-allocation factors will be replaced during the implementation phase using real-time data. LTGEN results are not adjusted by the process described in Chapter 7.7.1.2 and the *Economic Benefits Analysis Appendix* for the calculation of CVP energy generation economic benefits.

10.5 Sub-Allocation of Reimbursable Costs

Reimbursable costs are allocated only to the three reimbursable sub-purposes (i.e., irrigation, M&I, and commercial power). In these cases, the sub-allocation follows the distribution of costs across the three sub-purposes through the water supply and power sub-allocation process. Separate distributions of reimbursable costs for construction, IDC, and OM&R costs are shown in Table 10-2.

Table 10-2. Reimbursable Purpose Allocation Percentages (Nominal Dollars)

Sub-Purpose	Construction (\$)	Construction (%)	IDC (\$)	IDC (%)	OM&R (\$)	OM&R (%)
Irrigation	\$990,835,007	58.7%	\$71,523,621	57.2%	\$2,007,374,630	46.4%
M&I	\$131,817,462	7.8%	\$8,045,878	6.4%	\$319,563,407	7.4%
Commercial Power	\$566,051,934	33.5%	\$45,491,632	36.4%	\$1,997,332,755	46.2%
Total	\$1,688,704,403	100.0%	\$125,061,131	100.0%	\$4,324,270,792	100.0%

10.5.1 Allocation of Reimbursable SOD Costs

The allocation of SOD costs is defined by legislation. Specifically, 85 percent of SOD costs are non-reimbursable and 15 percent are reimbursable. Reimbursable SOD costs in Period 2 do not follow reimbursable cost distributions in Table 10-2. Instead, these costs follow the cost allocation factors for the appurtenant facility from the existing Period 1 allocation to distribute costs among the water supply and power purposes (see Section 5.10 for more information). Water supply costs are further sub-allocated using the Period 2 water supply sub-allocation factors (*Cost Allocation Spreadsheet Appendix*, Table 9) and all power costs are allocated to commercial power. The allocation of reimbursable SOD costs is presented in *Cost Allocation Spreadsheet Appendix*, Table 21.

10.6 Cost Allocation Summary (Period 2)

The results of the Period 2 cost allocation, including the water supply and power sub-allocation and assignment of direct assigned costs and repayment contracts is presented in Table 10-3. Table 10-3 focuses on the allocation of construction costs only. The allocation of estimated IDC and OM&R costs at the facility level are presented in the appendix; however, these costs are not presented here because they have been estimated for the purpose of the SCRB analysis only and do not represent actual costs subject to repayment.³²

³² Reimbursable IDC will be re-calculated for Period 2 based on the results on the Period 2 construction allocation (see Section 12.3.2). OM&R costs that are included in water rates are projected costs that are estimated annually; these costs will be allocated pursuant to the CAS results (refer to Section 12.4).

Table 10-3. Cost Allocation Summary – Period 2 (Nominal Dollars)¹

Cost Category	Construction
Irrigation Water Supply	
Water Supply Sub-Allocation	\$870,012,164
Project Use Energy – Power Sub-Allocation	\$120,822,843
Refuge Water Supply (Level 2) – Water Supply Sub-Allocation	\$54,759,215
B2 Water Supply – Water Supply Sub-Allocation	\$2,930,463
Refuge Water Supply (Level 2) – PUE Sub-Allocation	\$8,251,601
SCRB Allocation & Sub-Allocation Sub-Total	\$1,056,776,286
Direct Assigned Cost – Safety of Dams	\$3,017,064
Direct Assigned Cost – Other	\$8,724,372
Direct Assigned Cost Sub-Total	\$11,741,436
Irrigation Total	\$1,068,517,722
Municipal and Industrial Water Supply	
Water Supply Sub-Allocation	\$108,329,815
Project Use Energy – Power Sub-Allocation	\$23,487,647
Refuge Water Supply (Level 2) – Water Supply Sub-Allocation	\$7,284,986
B2 Water Supply – Water Supply Sub-Allocation	\$389,859
Refuge Water Supply (Level 2) – PUE Sub-Allocation	\$1,097,765
SCRB Allocation & Sub-Allocation Sub-Total	\$140,590,072
Direct Assigned Cost – Safety of Dams	\$570,349
Direct Assigned Cost - Other	\$1,160,662
Direct Assigned Cost Sub-Total	\$1,731,011
M&I Total	\$142,321,083

Cost Category	Construction
Refuge Water Supply (Non-Reimbursable)	
Refuge Water Supply (Incremental Level 4) – Water Supply Sub-Allocation	\$539,800
Refuge Water Supply (Incremental Level 4) – PUE Sub-Allocation	\$229,974
Non-Reimbursable Refuge Water Supply Total	\$769,774
Commercial Power	
Power Sub-Allocation	\$566,051,934
Refuge Water Supply (Level 2) – Water Supply Sub-Allocation	\$31,283,269
B2 Water Supply – Water Supply Sub-Allocation	\$1,674,137
Refuge Water Supply (Level 2) – PUE Sub-Allocation	\$4,714,040
SCRB Allocation & Sub-Allocation Sub-Total	\$603,723,380
Direct Assigned Cost – Safety of Dams	\$1,184,217
Direct Assigned Cost - Other	\$4,984,127
Direct Assigned Cost Sub-Total	\$6,168,344
Commercial Power Total	\$609,891,724
Flood Control	
Flood Control Total	\$331,281,759
Fish and Wildlife Enhancement	
Fish and Wildlife Enhancement Total	\$0
Recreation	
Recreation Total	\$5,742,471
Navigation	
Navigation Total	\$0
Water Quality	
Water Quality Total	\$89,358,743

Cost Category	Construction
Direct Assigned Costs (Non-Reimbursable)	
Federal – Safety of Dams	\$27,039,235
Federal - Other	\$170,655,307
Direct Assigned Cost – Federal Sub-Total	\$197,694,542
State	\$248,310,255
Direct Assigned Cost – State Sub-Total	\$248,310,255
State & Local	\$4,467,386
Direct Assigned Cost – State & Local Sub-Total	\$4,467,386
Repayment Contracts	
Irrigation	\$361,392,079
M&I	\$227,656,572
Commercial Power	\$8,568,500
Total Allocated Costs (SCRB)	\$2,228,242,485
Total Direct Assigned Costs ²	\$470,112,974
Total Repayment Contracts	\$597,617,151
Total Costs for Repayment	\$3,295,972,610

1. The table excludes additional repayment obligations and costs not allocated discussed in Section 3.5 and Section 3.6, respectively.
 2. Direct assigned costs reflect construction costs only and therefore do not match the values reported in Section 3.3.
- NA = Not Applicable

Chapter 11. Final Cost Allocation (Two-Period Merge)

This chapter presents the results of the final CVP cost allocation which represents the merger of the Period 1 allocation (historic allocation) and Period 2 allocation (prospective allocation). The two periods are merged based on an equal weighting as outlined in the two cost allocation and two-period repayment approach (see Section 5.1). The information presented in this chapter for the final cost allocation focuses on the allocation of CVP construction cost and the resultant assignment of costs for repayment purposes, which will be incorporated into the water ratesetting process.

The Period 1 allocation is based on the 1975 cost allocation factors and current sub-allocation process. Reclamation prepares an annual update to the interim allocation of the CVP for plant-in-service (construction) and O&M costs. The 2013 annual plant-in-service allocation is the basis for the allocation of costs associated with construction and IDC for Period 1.³³ The Period 2 allocation is based on the prospective analysis of CVP costs and benefits described in this report. The final cost allocation is a merge of the Period 1 and Period 2 allocations as described in Chapter 5, *Key Concepts and Assumptions*.

11.1 Final Cost Allocation Results

11.1.1 Construction Allocation

The results of the two-cost allocation and two-period repayment merge of construction costs are shown in Table 11-1. The table shows the total allocation for both Period 1 and Period 2, the weighted allocation for both periods, and the merger of the two periods that represents the final cost allocation. The total costs allocated in each period are equal; however, the costs are distributed differently based on different allocation of costs in Period 1 and Period 2. The total of the allocated costs in the two cost allocation two-period repayment merger is \$3,900,200,339.

Table 11-1 includes plant-in-service costs that are included in the CAS Facility List as well as other costs that are part of the annual CVP cost allocation that are assigned to water and power users for repayment. Repayment contracts and additional repayment obligations are not affected by the Period 2 allocation, and therefore, these costs are fixed across the two periods. Costs not allocated, including CVPIA, authorized deferred use and recent Folsom SOD costs, are shown separately in Table 11-1.

³³ The 2013 plant-in-service allocation is used for consistency with the base year (2013) used in the CAS.

Table 11-1. Final Cost Allocation (Merge) – Construction (Nominal Dollars)

Type of Cost	Period 1	Period 2	Period 1 (50%)	Period 2 (50%)	Final Cost Allocation (Merge)
Authorized Purposes & Sub-Purposes					
Water Supply – Irrigation	\$1,178,115,286	\$1,068,517,722	\$589,057,643	\$534,258,861	\$1,123,316,504
Water Supply – M&I	\$106,873,582	\$142,321,083	\$53,436,791	\$71,160,542	\$124,597,333
Power – Commercial	\$674,248,511	\$609,891,724	\$337,124,256	\$304,945,862	\$642,070,118
Flood Control	\$139,282,872	\$331,281,759	\$69,641,436	\$165,640,880	\$235,282,316
Water Quality	\$5,607,545	\$89,358,743	\$2,803,773	\$44,679,372	\$47,483,145
Recreation	\$74,998,433	\$5,742,471	\$37,499,217	\$2,871,236	\$40,370,453
Navigation	\$6,423,948	\$0	\$3,211,974	\$0	\$3,211,974
Fish & Wildlife Enhancement ¹	–	–	–	–	–
Non-Reimbursable (Other)					
Federal	\$258,046,528	\$198,271,873	\$129,023,264	\$99,135,936	\$228,159,200
State	\$250,429,656	\$248,502,699	\$125,214,828	\$124,251,349	\$249,466,177
State & Local	\$4,329,037	\$4,467,386	\$2,164,519	\$2,233,693	\$4,398,212
Repayment Contracts					
Irrigation	\$361,392,079	\$361,392,079	\$180,696,040	\$180,696,040	\$361,392,079
M&I	\$227,656,572	\$227,656,572	\$113,828,286	\$113,828,286	\$227,656,572

Type of Cost	Period 1	Period 2	Period 1 (50%)	Period 2 (50%)	Final Cost Allocation (Merge)
Commercial Power	\$8,568,500	\$8,568,500	\$4,274,250	\$4,274,250	\$8,568,500
Facility List Sub-Total	\$3,295,972,549	\$3,295,972,610	\$1,647,986,277	\$1,647,986,307	\$3,295,972,584
Additional Repayment Obligations					
Repayment Obligations – USACE					
Irrigation	\$19,686,165	\$19,686,165	\$9,843,083	\$9,843,083	\$19,686,166
M&I	\$447,937	\$447,937	\$223,969	\$223,969	\$447,938
WAPA Retired Assets					
Irrigation	\$8,464,815	\$8,464,815	\$4,232,408	\$4,232,408	\$8,464,816
M&I	\$1,207,155	\$1,207,155	\$603,578	\$603,578	\$1,207,156
Commercial Power	\$35,649,679	\$35,649,679	\$17,824,840	\$17,824,840	\$35,649,680
Non-Reimbursable (Federal)	\$213,468	\$213,468	\$106,734	\$106,734	\$213,468
Non-Reimbursable (State)	\$16,115	\$16,115	\$8,058	\$8,058	\$16,116
CA-OR Transmission Project	\$20,282,786	\$20,282,786	\$10,141,393	\$10,141,393	\$20,282,786
Additional Repayment Obligations Sub-Total	\$85,968,120	\$85,968,120	\$42,984,063	\$42,984,063	\$85,968,126
Costs Not Allocated					
Authorized Deferred Use	\$56,875,000	\$56,875,000	\$28,437,500	\$28,437,500	\$56,875,000

Type of Cost	Period 1	Period 2	Period 1 (50%)	Period 2 (50%)	Final Cost Allocation (Merge)
CVPIA	\$340,872,120	\$340,872,120	\$170,436,060	\$170,436,060	\$340,872,120
Folsom SOD – Not in Repayment	\$120,512,509	\$120,512,509	\$60,256,255	\$60,256,255	\$120,512,510
Costs Not Allocated Sub-Total	\$518,259,629	\$518,259,629	\$259,129,815	\$259,129,815	\$518,259,629
Total Cost	\$3,900,200,298	\$3,900,200,359	\$1,950,100,154	\$1,950,100,185	\$3,900,200,339

1. Fish and wildlife mitigation costs are allocated to applicable categories for repayment, including non-reimbursable costs

11.1.2 IDC Allocation

The merge of IDC costs for repayment purposes is shown in Table 11-2. IDC subject to repayment is different than estimated IDC used in the SCRB analysis and reflects actual IDC in the CVP financial records. IDC estimated for the CAS and SCRB analysis is at the appraisal level, and IDC for repayment in Period 2 will be calculated during implementation in accordance with Reclamation accounting guidelines. The merger of IDC costs will be completed after the final cost allocation is complete and IDC is calculated for Period 2 based on the methodology presented in Section 12.3.2.

The values presented in Table 11-2 includes non-reimbursable IDC costs. Non-reimbursable IDC is associated with the New Melones Unit (\$27.0 million) and the San Felipe Division (\$4.1 million). For the New Melones Unit, these costs are direct assigned as non-reimbursable because Reclamation does not charge IDC on irrigation costs; and for the San Felipe Division, these costs are direct assigned as non-reimbursable pursuant to an agreement between Reclamation and water contractors. Additional information on non-reimbursable IDC costs is presented in Section 3.3. Non-reimbursable IDC costs will remain fixed across Period 1 and Period 2 and are not subject to repayment.

Table 11-2. Final Cost Allocation (Merge) – IDC^{1,2}

Category	Period 1 (Total)	Period 2 (Total)	Period 1 (50%)	Period 2 (50%)	Final Cost Allocation (Merge)
M&I	\$5,606,224	TBD	\$2,803,112	TBD	TBD
Commercial Power	\$54,755,940	TBD	\$27,377,970	TBD	TBD
Non-Reimbursable ³	\$31,114,589	\$31,114,589	\$15,557,295	\$15,557,295	\$31,114,589
Repayment Contracts – M&I ⁴	\$35,778,896	\$35,778,896	\$17,889,448	\$17,889,448	\$35,778,896
Repayment Contracts – Commercial Power ⁴	\$411,801	\$411,801	\$205,901	\$205,901	\$411,801
Total	\$127,255,650	TBD	\$63,627,825	TBD	TBD

1. Includes IDC for both Reclamation and WAPA facilities

2. Excludes IDC associated with CVPIA facilities and Folsom SOD (Not in Repayment)

3. This value represents IDC that is included in the CVP Financial Statements but has been direct assigned as non-reimbursable based on legislation and/or agreement.

4. IDC associated with repayment contracts will remain fixed across Period 1 and Period 2.

TBD = To be determined

11.1.3 OM&R Allocation

The allocation of OM&R costs is not subject to the two-period merger because they reflect prospective costs only. Reclamation will continue to allocate OM&R costs annually using the results of the Period 2 allocation only. Additional information related to the methodology that will be used to allocate projected OM&R costs is presented in Section 12.4.

11.1.4 Summary of Repayment Obligations

The summary of repayment obligations for construction costs is presented in Table 11-3. Repayment obligations shown in Table 11-4 reflect the costs allocated (and sub-allocated) to reimbursable and non-reimbursable purposes in Period 1, Period 2, and the final cost allocation. The breakdown of construction costs allocated across reimbursable sub-purposes is shown in Table 11-4.

Table 11-3. Summary of Repayment Obligations – Construction (Excludes IDC and OM&R)

Category	Period 1 (\$)	Period 1 (%)	Period 2 (\$)	Period 2 (%)	Period 2 (Change from P1)	Final Cost Allocation (\$)	Final Cost Allocation (%)	Final Cost Allocation (Change from P1)
Irrigation	\$1,206,266,266	30.93%	\$1,096,668,702	28.12%	(\$109,597,564)	\$1,151,467,486	29.52%	(\$54,798,780)
M&I	\$108,528,674	2.78%	\$143,976,175	3.69%	\$35,447,501	\$126,252,427	3.24%	\$17,723,753
Commercial Power	\$730,180,976	18.72%	\$665,824,189	17.07%	(\$64,356,787)	\$698,002,584	17.90%	(\$32,178,392)
Repayment Contracts	\$597,617,151	15.32%	\$597,617,151	15.32%	\$0	\$597,617,152	15.32%	\$0
Non-reimbursable	\$739,347,602	18.96%	\$877,854,513	22.51%	\$138,506,911	\$808,601,061	20.73%	\$69,253,459
CVPIA	\$340,872,120	8.74%	\$340,872,120	8.74%	\$0	\$340,872,120	8.74%	\$0
Authorized Deferred Use	\$56,875,000	1.46%	\$56,875,000	1.46%	\$0	\$56,875,000	1.46%	\$0
SOD – Not in Repayment	\$120,512,509	3.09%	\$120,512,509	3.09%	\$0	\$120,512,509	3.09%	\$0
Total	\$3,900,200,298	100.00%	\$3,900,200,359	100.00%	NA	\$3,900,200,339	100.00%	NA

P1 = Period 1

SOD = Safety of Dams

Table 11-4. Reimbursable Cost Distribution – Construction (Excludes IDC and OM&R)

Category ¹	Period 1 (\$)	Period 1 (%)	Period 2 (\$)	Period 2 (%)	Final Cost Allocation (\$)	Final Cost Allocation (%)
Irrigation	\$1,206,266,266	58.99%	\$1,096,668,702	57.52%	\$1,151,467,486	58.28%
M&I	\$108,528,674	5.31%	\$143,976,175	7.55%	\$126,252,427	6.39%
Commercial Power	\$730,180,976	35.71%	\$665,824,189	34.92%	\$698,002,584	35.33%
Total	\$2,044,975,916	100.00%	\$1,906,469,066	100.00%	\$1,975,722,497	100.00%

1. Values presented in this table do not include repayment contracts.

Chapter 12. Implementation of the Final Cost Allocation

This chapter presents the proposed approach for implementing the final cost allocation in the context of the CVP water ratesetting and power repayment processes.

12.1 Cost Allocation and Repayment

The primary purpose of cost allocation is to determine the assignment of costs to project beneficiaries for repayment. As repayment requirements differ by law among the authorized purposes served by a project, a systematic and impartial process of allocation is required to quantify and assign those costs that are clearly associated with a particular purpose, and to equitably apportion the remaining joint costs that serve multiple purposes. The cost allocation process is the basis for assigning costs to project beneficiaries for repayment.

Allocated costs and estimated repayment must be determined independently. Costs are not to be allocated to a particular purpose based on the ability (or inability) of certain beneficiaries to repay allocated costs. All project purposes are to receive an equitable share of the efficiencies (and cost savings) provided of a multipurpose project. Therefore, all purposes should receive comparable treatment in the cost allocation process.

Project costs have been allocated to reimbursable and non-reimbursable purposes as presented in Chapter 11, *Final Cost Allocation (Two Period Merge)* (see Table 11-4). The reimbursable costs in the final cost allocation serve as the foundation for assigning water costs for repayment through the CVP water ratesetting process and establishing power repayment obligations.

12.2 CVP Water Ratesetting Policy

The water ratesetting process is used to calculate water service rates that recover the Federal investment in constructing and operating and maintaining the CVP. The legislation guiding the recovery of the Federal investment through water service rates is the Reclamation Project Act of 1939 (Act). Water service contracts are authorized under Sections 9c(2) and 9e of the Act for M&I and irrigation water, respectively. Water service contracts are used in cases like the CVP where there are a wide range of multipurpose facilities serving different purposes and beneficiaries (contractors). For water contractors, costs are allocated to and recovered from beneficiaries based on the amount of water received (i.e., water service). The basic unit of measurement for water deliveries, and thus cost recovery, is acre-feet of water.

For water service contracts, the Act requires the Secretary of the Interior to establish water rates for the sale of water to “produce revenue at least sufficient to cover annual O&M costs and the

appropriate share of fixed charges (construction costs) of the project.” Reclamation has broad discretion under the Act for developing and implementing ratesetting policies. Formal water ratesetting policies are in place for the CVP. Specifically, Reclamation has the following two ratesetting policies which together apply to over 200 water service contractors within the CVP:

- The CVP Irrigation Ratesetting Policy (Reclamation 1988)
- The Interim CVP M&I Ratesetting Policy (Reclamation 1993)

To facilitate the CVP water ratesetting process, an allocation of construction (plant-in-service) cost is performed annually, which assigns costs to the water supply sub-purposes of irrigation and M&I. Generally, construction costs are to be recovered over 50 years. The majority of CVP facilities currently in place have costs that are recoverable through 2030. Costs are recovered through water rates based on cost pools. The following cost pools are used in the CVP: storage, conveyance, conveyance pumping, and CVP-wide costs.

There are also facility costs attributed to PUE which is allocated further to storage, conveyance pumping, and direct pumping cost pools based on the energy utilized over a 50-year period. Each cost pool is pro-rated across water contractors that benefit from the service based on chargeable water over the 50-year period.

Generally, O&M water rates are also based on cost pools. For O&M, the two main cost pools are storage and water marketing. Similar to construction, an annual O&M allocation is prepared that assigns costs to project purposes, and costs allocated to irrigation and M&I are ultimately assigned to cost pools and divided by the estimated water deliveries to develop an estimated water rate (\$/AF) for that year. Subsequently, the estimated costs are trued up to determine the allocation of actual O&M costs in each cost pool. The total reimbursable cost in each cost pool is pro-rated among the water contractors required to pay for that service based on actual chargeable water.

12.3 Project Repayment (Construction & IDC Costs)

12.3.1 Construction Costs

The CVP plant-in-service (construction) allocation is prepared annually to reflect changes in CVP construction costs and sub-allocation processes that vary year to year. The results of the final cost allocation presented in Chapter 11 is representative of 2013 plant-in-service (construction) costs and water supply and power sub-allocation distributions developed as part of this study that are based on modeled conditions. However, when the final cost allocation is implemented annually, Reclamation will apply the final cost allocation results to current costs and operational conditions that are in effect at the time the annual plant-in-service allocation is prepared taking into consideration applicable ratesetting and Reclamation policy.

12.3.2 IDC Costs

IDC subject to repayment will be re-calculated for the Period 2 allocation³⁴. The re-calculation of IDC in Period 2 is required to reflect the new cost allocation factors, specifically the allocation of costs to M&I and commercial power, which are the only two sub-purposes that are assigned reimbursable IDC. The process that will be used to re-calculate IDC in Period 2 will take into consideration applicable ratesetting and Reclamation policy. Once IDC is re-calculated for Period 2, it will be merged with the IDC in Period 1 (which is fixed) for inclusion in CVP water rates and power repayment obligations.

12.4 Cost Recovery (OM&R Costs)

For the purposes of the SCRB analysis, estimated OM&R costs were developed; however, these costs are not used in the ratesetting process. For ratesetting purposes, the annual CVP OM&R allocation is prepared separately from the plant-in-service (construction) allocation and represents a prospective analysis that covers projected OM&R costs for the subsequent fiscal year. The annual OM&R cost projections are derived from the budget prepared for the MP Region annually. Projected OM&R costs are ultimately reconciled to actual OM&R expenses after they become available.

The structure of the OM&R cost allocation is different than the plant-in-service allocation. The plant-in-service allocation is based primarily on CVP facility costs, while the OM&R allocation not only covers ongoing costs associated with CVP facilities, it also covers more generalized OM&R costs.

After the final cost allocation is implemented, the allocation of annual OM&R costs will be based on the Period 2 allocation to the extent practicable. The allocation is intended to represent current operating conditions of the CVP. Specifically, the facility-level cost allocation factors from the Period 2 allocation will be applied to facility-level OM&R costs where applicable. For more generalized OM&R costs, appropriate cost allocation factors will be developed consistent with cost allocation principles, Reclamation policy, and applicable laws and regulations.

12.5 Future CVP Investments

Future investments in the CVP, such as CALFED projects, are currently being considered under the WIIN Act (PL 114-322). In the event that a future investment will be accompanied with outstanding repayment obligations, the feasibility report for such investment will provide a cost allocation for repayment of such investments. OM&R costs accompanying future investments will be incorporated into the OM&R allocation directly or through the cost allocation that accompanies such an investment (see CMP 09-04).

³⁴ Reclamation will proportionately change IDC when allocated construction amounts change and proportional adjustments are appropriate. Otherwise, IDC will be either based on those computed for the period 2 allocation or estimated per IDC policy (FIN 07-21).

12.6 Allocation of CVPIA Costs

Concurrent with the CVP CAS, a reconciliation of CVPIA expenditures is being conducted to determine whether CVPIA revenues are sufficient to recover CVPIA expenditures. Section 3406(b)(4) states that the reimbursable share “shall be allocated among project water and power users in accordance with existing project cost allocation procedures.” The allocation of CVPIA costs is specified in the BPG.

CAS Facility List

CVP Cost Allocation Study Facility List (FY 2013) ^{1,2}

In the table below, direct assigned costs (DAC) and costs not allocated³ (CNA) are excluded from SCRB cost allocation.

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
CVP (General)									
Centralized Water and Power System Control	\$32,473,924	\$0	\$0	\$0	\$0	\$0	\$0	\$32,473,924	\$0
CVP Radio Network	\$2,506,417	\$0	\$0	\$0	\$0	\$0	\$0	\$2,506,417	\$0
Telemetry Equipment	\$130,180	\$0	\$0	\$0	\$0	\$0	\$0	\$130,180	\$0
American River Division									
Carrier Current Equipment - Folsom	\$32,139	\$0	\$0	\$0	\$0	\$0	\$0	\$32,139	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Folsom Dam & Reservoir, Safety of Dams (in Repayment)	\$26,385,404	\$0	\$26,385,404	\$0	\$0	\$0	\$0	\$0	\$0
Folsom Dam & Reservoir	\$103,754,844	\$0	\$0	\$0	\$0	\$0	\$0	\$103,754,844	\$0
Folsom Dam Pumping Plant - Enhancement	\$3,144,844	\$0	\$0	\$0	\$0	\$0	\$0	\$3,144,844	\$0
Folsom Powerplant	\$26,598,010	\$0	\$0	\$0	\$0	\$0	\$0	\$26,598,010	\$0
Folsom Switchyard (American River Division)	\$1,396,335	\$0	\$0	\$0	\$0	\$0	\$0	\$1,396,335	\$0
Nimbus Dam & Reservoir	\$6,809,933	\$0	\$0	\$40,000	\$0	\$0	\$0	\$6,769,933	\$0
Nimbus Fish Protection Facility	\$1,239,913	\$1,239,913	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Nimbus Power Plant	\$6,517,250	\$0	\$0	\$0	\$0	\$0	\$0	\$6,517,250	\$0
Nimbus Switchyard	\$147,460	\$0	\$0	\$0	\$0	\$0	\$0	\$147,460	\$0
Permanent Operating Facilities - Folsom	\$11,635,054	\$0	\$0	\$0	\$0	\$0	\$0	\$11,635,054	\$0
Replace 4160 Feeder Cable - Folsom Pumps	\$351,247	\$0	\$0	\$0	\$0	\$0	\$0	\$351,247	\$0
Replace Transformer K3A - Folsom	\$1,435,519	\$0	\$0	\$0	\$0	\$0	\$0	\$1,435,519	\$0
Security Improvements - Folsom	\$15,399,932	\$0	\$0	\$15,399,932	\$0	\$0	\$0	\$0	\$0
Union Hills Reservoir	\$80,000	\$0	\$0	\$0	\$0	\$0	\$0	\$80,000	\$0
Auburn-Folsom South Unit									

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
American River Pumping Station	\$3,589,560	\$0	\$0	\$3,589,560	\$0	\$0	\$0	\$0	\$0
Folsom-South Canal	\$6,696,654	\$0	\$0	\$0	\$0	\$0	\$2,425,000	\$4,271,654	\$0
Folsom-South Canal - Recreation Facilities	\$334,213	\$0	\$0	\$0	\$0	\$0	\$0	\$334,213	\$0
No Hands Bridge	\$1,192,567	\$0	\$0	\$0	\$0	\$0	\$0	\$1,192,567	\$0
Permanent Operating Facilities - Auburn-Folsom South	\$10,142	\$0	\$0	\$0	\$0	\$0	\$0	\$10,142	\$0
Delta Division									
Automated Meters	\$678,598	\$0	\$0	\$0	\$0	\$0	\$0	\$678,598	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Carrier Current Equipment - Tracy	\$189,212	\$0	\$0	\$0	\$0	\$0	\$0	\$189,212	\$0
Clayton Canal	\$473,804	\$0	\$0	\$0	\$0	\$0	\$0	\$473,804	\$0
Colombia Mowry	\$911,474	\$0	\$0	\$0	\$0	\$0	\$0	\$911,474	\$0
Contra Costa Canal	\$5,581,989	\$0	\$0	\$0	\$0	\$0	\$0	\$5,581,989	\$0
Contra Costa Canal System - Deferred Maintenance	\$542,664	\$0	\$0	\$0	\$0	\$0	\$0	\$542,664	\$0
Contra Costa Water District - Distribution System	\$1,166,455	\$0	\$0	\$0	\$0	\$1,166,455	\$0	\$0	\$0
Contra Costa Fish Screen [PL 102-575, Sec. 3406(b)(5)]	\$30,062,388	\$0	\$0	\$0	\$30,062,388	\$0	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Contra Costa Pumping Plant	\$748,821	\$0	\$0	\$0	\$0	\$0	\$0	\$748,821	\$0
Contra Loma Dam & Reservoir	\$4,514,442	\$0	\$0	\$0	\$0	\$0	\$0	\$4,514,442	\$0
Contra Loma Dam & Reservoir - Recreation Facilities	\$205,367	\$0	\$0	\$0	\$0	\$0	\$0	\$205,367	\$0
Delta Cross Channel	\$2,990,960	\$0	\$0	\$0	\$0	\$0	\$0	\$2,990,960	\$0
Delta- Mendota Canal	\$80,251,070	\$0	\$0	\$0	\$0	\$0	\$0	\$80,251,070	\$0
Delta- Mendota Intake	\$1,931,474	\$0	\$0	\$0	\$0	\$0	\$0	\$1,931,474	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Delta-Mendota Canal-California Aqueduct Intertie	\$24,399,087	\$0	\$0	\$0	\$0	\$0	\$0	\$24,399,087	\$0
Martinez Reservoir	\$617,604	\$0	\$0	\$0	\$0	\$0	\$0	\$617,604	\$0
Permanent Operating Facilities - Tracy	\$1,209,979	\$0	\$0	\$0	\$0	\$0	\$0	\$1,209,979	\$0
Plain View Water District - Distribution System	\$544,760	\$0	\$0	\$0	\$0	\$544,760	\$0	\$0	\$0
Shortcut Pipeline	\$4,725,196	\$0	\$0	\$0	\$0	\$0	\$0	\$4,725,196	\$0
Tracy Fish Collection Facility - Replace Transformers	\$18,716	\$0	\$0	\$0	\$0	\$0	\$0	\$18,716	\$18,716

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Tracy Fish Protection Facility	\$6,114,254	\$6,114,254	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tracy (Jones) Pumping Plant	\$25,930,750	\$0	\$0	\$0	\$0	\$0	\$0	\$25,930,750	\$0
Tracy Switchyard	\$2,561,553	\$0	\$0	\$0	\$0	\$0	\$0	\$2,561,553	\$0
Ygnacio Canal	\$373,012	\$0	\$0	\$0	\$0	\$0	\$0	\$373,012	\$0
Ygnacio Pumping Plant	\$51,194	\$0	\$0	\$0	\$0	\$0	\$0	\$51,194	\$0
Friant Division							\$0		
Delano-Earlimart Irrigation District - Distribution System	\$10,560,037	\$0	\$0	\$0	\$0	\$10,560,037	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Exeter Irrigation District - Distribution System	\$3,485,126	\$0	\$0	\$0	\$0	\$3,485,126	\$0	\$0	\$0
Friant Dam & Reservoir	\$30,115,010	\$0	\$0	\$0	\$0	\$0	\$0	\$30,115,010	\$0
Friant-Kern Canal	\$98,534,937	\$0	\$0	\$0	\$0	\$0	\$0	\$98,534,937	\$0
Ivanhoe Irrigation District - Distribution System	\$2,150,984	\$0	\$0	\$0	\$0	\$2,150,984	\$0	\$0	\$0
Lake Woollomes - Recreation Facilities	\$54,500	\$0	\$0	\$27,250	\$0	\$0	\$0	\$27,250	\$0
Lindmore Irrigation District - Distribution System	\$4,991,841	\$0	\$0	\$0	\$0	\$4,991,841	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Lindsay-Strathmore Irrigation District - Distribution System	\$2,248,038	\$0	\$0	\$0	\$0	\$2,248,038	\$0	\$0	\$0
Madera Canal	\$3,780,702	\$0	\$0	\$0	\$0	\$0	\$0	\$3,780,702	\$0
Madera Irrigation District - Distribution System	\$13,496,356	\$0	\$0	\$0	\$0	\$13,496,356	\$0	\$0	\$0
Permanent Operating Facilities - Friant	\$318,852	\$0	\$0	\$0	\$0	\$0	\$0	\$318,852	\$0
San Joaquin River Restoration Program	\$452,788	\$452,788	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Shafter-Wasco Irrigation District - Distribution System	\$8,366,979	\$0	\$0	\$0	\$0	\$8,366,979	\$0	\$0	\$0
South San Joaquin Municipal Utility District - Distribution System	\$9,227,718	\$0	\$0	\$0	\$0	\$9,227,718	\$0	\$0	\$0
Stone Corral Irrigation District - Distribution System	\$1,888,000	\$0	\$0	\$0	\$0	\$1,888,000	\$0	\$0	\$0
Tea Pot Dome Water District - Distribution System	\$1,665,816	\$0	\$0	\$0	\$0	\$1,665,816	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Sacramento River Division									
4-M Water District - Turnout	\$266,546	\$0	\$0	\$0	\$0	\$0	\$0	\$266,546	\$0
Colusa County Water District - Distribution System	\$17,077,314	\$0	\$0	\$0	\$0	\$17,077,314	\$0	\$0	\$0
Colusa County Water District - Relift Pumping Plant	\$12,633,482	\$0	\$0	\$0	\$0	\$0	\$0	\$12,633,482	\$0
Colusa Service Area - Cortina - Relift Pumping Plant	\$141,792	\$0	\$0	\$0	\$0	\$0	\$0	\$141,792	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Colusa Service Area - Davis - Relift Pumping Plant	\$180,305	\$0	\$0	\$0	\$0	\$0	\$0	\$180,305	\$0
Colusa Service Area - Other - Relift Pumping Plant	\$1,949	\$0	\$0	\$0	\$0	\$0	\$0	\$1,949	\$0
Corning Canal	\$5,762,097	\$0	\$0	\$10,805	\$0	\$0	\$0	\$5,751,292	\$0
Corning Canal Pumping Plant	\$2,529,063	\$0	\$0	\$0	\$0	\$0	\$0	\$2,529,063	\$0
Corning Water District - Relift Pumping Plant	\$2,779,835	\$0	\$0	\$0	\$0	\$0	\$0	\$2,779,835	\$0
Corning Water District - Distribution System	\$3,866,292	\$0	\$0	\$0	\$0	\$3,866,292	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Dunnigan Water District - Distribution System	\$6,822,123	\$0	\$0	\$0	\$0	\$6,822,123	\$0	\$0	\$0
Dunnigan Water District - Relift Pumping Plant	\$1,700,384	\$0	\$0	\$0	\$0	\$0	\$0	\$1,700,384	\$0
Glenn Valley Water District - Relift Pumping Plant	\$1,048,845	\$0	\$0	\$0	\$0	\$0	\$0	\$1,048,845	\$0
Glide Irrigation District - Relift Pumping Plant	\$1,077,496	\$0	\$0	\$0	\$0	\$0	\$0	\$1,077,496	\$0
Kanawha Water District - Relift Pumping Plant	\$2,753,824	\$0	\$0	\$0	\$0	\$0	\$0	\$2,753,824	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
La Grande Water District - Turnout	\$244,897	\$0	\$0	\$0	\$0	\$0	\$0	\$244,897	\$0
Orland-Artois Water District - Distribution System	\$23,702,915	\$0	\$0	\$0	\$0	\$23,702,915	\$0	\$0	\$0
Orland-Artois Water District - Relift Pumping Plant	\$7,496,789	\$0	\$0	\$0	\$0	\$0	\$0	\$7,496,789	\$0
Permanent Operating Facilities - Arbuckle	\$1,775,258	\$0	\$0	\$0	\$0	\$0	\$0	\$1,775,258	\$0
Permanent Operating Facilities - Red Bluff	\$59,410	\$0	\$0	\$0	\$0	\$0	\$0	\$59,410	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Permanent Operating Facilities - Red Bluff Suboffice	\$3,802,995	\$0	\$0	\$0	\$0	\$0	\$0	\$3,802,995	\$0
Permanent Operating Facilities - Willows	\$390,730	\$0	\$0	\$0	\$0	\$0	\$0	\$390,730	\$0
Permanent Operating Facilities - Willows Suboffice	\$966,294	\$0	\$0	\$0	\$0	\$0	\$0	\$966,294	\$0
Pilot Research Pumping Plant [PL 102-575, Sec. 3406(b)(10)]	\$20,858,214	\$0	\$0	\$0	\$19,809,945	\$0	\$0	\$1,048,269	\$0
Proberta Water District - Relift Pumping Plant	\$172,158	\$0	\$0	\$0	\$0	\$0	\$0	\$172,158	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Red Bluff Diversion Dam	\$10,718,478	\$1,759,344	\$0	\$0	\$0	\$0	\$0	\$8,959,134	\$1,631,189
Red Bluff Pumping Plant	\$178,174,932	\$0	\$0	\$0	\$178,174,932	\$0	\$0	\$0	\$0
Tehama- Colusa Canal	\$205,461,879	\$39,298,924	\$0	\$3,500	\$0	\$0	\$54,450,000	\$111,709,455	\$26,510,321
Westside Water District - Relift Pumping Plant	\$7,002,377	\$0	\$0	\$0	\$0	\$0	\$0	\$7,002,377	\$0
San Felipe Division									
Archeological Studies	\$104,509	\$0	\$0	\$104,509	\$0	\$0	\$0	\$0	\$0
Coyote Pumping Plant	\$18,167,013	\$0	\$0	\$1,816,701	\$0	\$16,350,312	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Coyote Pumping Plant - 115 kv line	\$2,146,829	\$0	\$0	\$214,683	\$0	\$1,932,146	\$0	\$0	\$0
Fish & Wildlife Facility - San Felipe	\$334,939	\$0	\$0	\$33,494	\$0	\$301,445	\$0	\$0	\$0
Hollister Canal and Conduit	\$28,830,368	\$0	\$0	\$2,883,037	\$0	\$25,947,331	\$0	\$0	\$0
Pacheco Conduit	\$33,024,632	\$0	\$0	\$3,302,463	\$0	\$29,722,169	\$0	\$0	\$0
Pacheco Pumping Plant	\$33,400,837	\$0	\$0	\$3,340,084	\$0	\$30,060,753	\$0	\$0	\$0
Pacheco Substation	\$266,383	\$0	\$0	\$26,638	\$0	\$239,745	\$0	\$0	\$0
Pacheco Tunnel	\$83,664,404	\$0	\$0	\$8,366,440	\$0	\$75,297,964	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Permanent Operating Facilities - San Felipe	\$260,247	\$0	\$0	\$26,025	\$0	\$234,222	\$0	\$0	\$0
San Benito County Recreation Facilities	\$257,568	\$0	\$0	\$128,784	\$0	\$0	\$0	\$128,784	\$0
San Justo Dam & Reservoir	\$48,102,786	\$0	\$0	\$4,810,279	\$0	\$43,292,507	\$0	\$0	\$0
Santa Clara Tunnel & Conduit	\$75,398,296	\$0	\$0	\$7,539,830	\$0	\$67,858,467	\$0	\$0	\$0
Security Improvements - San Felipe	\$247,305	\$0	\$0	\$247,305	\$0	\$0	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
San Joaquin Division									
San Luis Unit - Land Retirement [PL 102-575, Sec. 3408(h)(1)]	\$2,365,332	\$0	\$0	\$0	\$2,365,332	\$0	\$0	\$0	\$0
SJBAP Open Lateral & Newman Canal [PL 102-575, Sec. 3406(d)]	\$5,263,176	\$0	\$0	\$0	\$5,263,176	\$0	\$0	\$0	\$0
SJBAP-Bear Creek [PL 102-575, Sec. 3406(d)]	\$13,083,844	\$0	\$0	\$0	\$13,083,844	\$0	\$0	\$0	\$0
SJBAP-IL4 [PL 102-575, Sec. 3406(d)]	\$2,674,866	\$0	\$0	\$0	\$2,674,866	\$0	\$0	\$0	\$0
San Luis Unit									

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Arroyo Pasajero	\$373,273	\$0	\$0	\$205,300	\$0	\$0	\$0	\$167,973	\$0
City of Huron - Distribution System	\$76,012	\$0	\$0	\$0	\$0	\$76,012	\$0	\$0	\$0
Coalinga Canal	\$8,670,356	\$0	\$0	\$0	\$0	\$0	\$0	\$8,670,356	\$0
Dos Amigos Pumping Plant	\$31,878,063	\$0	\$0	\$17,485,606	\$0	\$0	\$0	\$14,392,457	\$0
Dos Amigos Switchyard	\$594,700	\$0	\$0	\$323,883	\$0	\$0	\$0	\$270,817	\$0
Fish & Wildlife Facility - San Luis	\$48,900	\$0	\$0	\$26,895	\$0	\$0	\$0	\$22,005	\$22,005
Lemoore NAS - Distribution System	\$1,139,037	\$0	\$0	\$0	\$0	\$1,139,037	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Little Panoche Creek Detention Dam & Reservoir	\$3,789,791	\$0	\$0	\$2,075,795	\$0	\$0	\$0	\$1,713,997	\$0
Little Panoche Creek Detention Dam & Reservoir (Safety of Dams)	\$14,524	\$0	\$6,536	\$7,988	\$0	\$0	\$0	\$0	\$0
Los Banos Creek Detention Dam & Reservoir	\$5,144,073	\$0	\$0	\$1,419,032	\$0	\$0	\$0	\$3,725,041	\$0
Los Banos Creek Detention Dam & Reservoir (Safety of Dams)	\$23,964	\$0	\$10,784	\$13,180	\$0	\$0	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Los Banos Creek Detention Dam & Reservoir - Recreation Facilities	\$17,074	\$0	\$0	\$9,391	\$0	\$0	\$0	\$7,683	\$0
Los Banos Substation - 70 kv Breaker	\$428,450	\$0	\$0	\$0	\$0	\$0	\$0	\$428,450	\$0
O'Neill Dam, Forebay & Wasteway	\$8,424,155	\$0	\$0	\$4,620,058	\$0	\$0	\$0	\$3,804,097	\$0
O'Neill Dam, Forebay & Wasteway (Safety of Dams)	\$12,018,091	\$0	\$5,408,141	\$6,609,950	\$0	\$0	\$0	\$0	\$0
O'Neill Dam, Forebay & Wasteway - Recreation Facilities	\$3,632,540	\$0	\$0	\$1,997,897	\$0	\$0	\$0	\$1,634,643	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
O'Neill Pumping Plant	\$11,345,364	\$0	\$0	\$0	\$0	\$0	\$0	\$11,345,364	\$0
O'Neill Pumping Plant Intake Channel	\$1,591,809	\$0	\$0	\$0	\$0	\$0	\$0	\$1,591,809	\$0
O'Neill Pumping Plant Switchyard	\$212,474	\$0	\$0	\$0	\$0	\$0	\$0	\$212,474	\$0
Permanent Operating Facilities - San Luis	\$230,708	\$0	\$0	\$0	\$0	\$0	\$0	\$230,708	\$0
Permanent Operating Facilities - State-Federal	\$8,717,720	\$0	\$0	\$4,794,746	\$0	\$0	\$0	\$3,922,974	\$0
Pleasant Valley Pumping Plant	\$9,638,101	\$0	\$0	\$0	\$0	\$0	\$0	\$9,638,101	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
San Luis Canal	\$199,421,183	\$0	\$0	\$109,305,678	\$0	\$0	\$0	\$90,115,505	\$0
San Luis Canal - Recreation Facilities	\$561	\$0	\$0	\$308	\$0	\$0	\$0	\$252	\$0
San Luis Canal Turnouts	\$18,232,186	\$0	\$0	\$0	\$0	\$0	\$0	\$18,232,186	\$0
San Luis Drain	\$59,188,403	\$0	\$0	\$6,806,851	\$0	\$0	\$0	\$52,381,552	\$0
San Luis Relift Pumping Plant (Pleasant Valley Water District)	\$1,362,467	\$0	\$0	\$0	\$0	\$0	\$0	\$1,362,467	\$0
San Luis Relift Pumping Plant (Westlands Water District)	\$36,874,636	\$0	\$0	\$0	\$0	\$0	\$0	\$36,874,636	\$0
San Luis Dam & Reservoir	\$109,409,653	\$0	\$0	\$61,425,431	\$0	\$0	\$0	\$47,984,222	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
San Luis Dam & Reservoir - Recreation Facilities	\$3,469,879	\$0	\$0	\$1,908,433	\$0	\$0	\$0	\$1,561,446	\$0
San Luis Switchyard	\$1,056,316	\$0	\$0	\$574,993	\$0	\$0	\$0	\$481,323	\$0
Security Improvements - San Luis	\$1,380,761	\$0	\$0	\$1,380,761	\$0	\$0	\$0	\$0	\$0
W. R. Gianelli Pump-Generating Plant	\$67,274,969	\$0	\$0	\$36,889,008	\$0	\$0	\$0	\$30,385,961	\$0
Westlands Water District - Distribution System	\$179,157,197	\$0	\$0	\$0	\$0	\$179,157,197	\$0	\$0	\$0
Shasta Division									
Carrier Current Equipment - Shasta	\$133,697	\$0	\$0	\$0	\$0	\$0	\$0	\$133,697	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Keswick Dam [PL 102-575, Sec. 3406(b)(11)] ⁵	\$13,429,968	\$0	\$0	\$0	\$2,581,549	\$0	\$0	\$10,848,418	\$0
Keswick Powerplant	\$22,025,521	\$0	\$0	\$0	\$0	\$0	\$0	\$22,025,521	\$0
Keswick-Carr Microwave System	\$3,445	\$0	\$0	\$0	\$0	\$0	\$0	\$3,445	\$0
Permanent Operating Facilities - Shasta	\$924,586	\$0	\$0	\$0	\$0	\$0	\$0	\$924,586	\$0
Radio Rain Gauges	\$643,302	\$0	\$0	\$0	\$0	\$0	\$0	\$643,302	\$0
Radio Stream Gauges	\$11,145	\$0	\$0	\$0	\$0	\$0	\$0	\$11,145	\$0
Security Improvements - Shasta	\$8,448,434	\$0	\$0	\$8,448,434	\$0	\$0	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Service Line to PCI Warehouse - Shasta	\$2,251	\$0	\$0	\$0	\$0	\$0	\$0	\$2,251	\$0
Shasta - Toyon 13.8 KV Line	\$40,404	\$0	\$0	\$0	\$0	\$0	\$0	\$40,404	\$0
Shasta - Tracy 230-kv Lines - General	\$48,191	\$0	\$0	\$0	\$0	\$0	\$0	\$48,191	\$0
Shasta 230-kv Switchyard (Shasta Division)	\$9,364,583	\$0	\$0	\$0	\$0	\$0	\$0	\$9,364,583	\$0
Shasta Dam & Reservoir [PL 102-575, Sec. 3406(b)(6)] ⁶	\$210,811,334	\$0	\$0	\$0	\$86,738,188	\$0	\$0	\$124,073,145	\$0
Shasta Powerplant	\$81,833,782	\$0	\$0	\$0	\$0	\$0	\$0	\$81,833,782	\$0
Toyon Pipeline	\$189,751	\$0	\$0	\$0	\$0	\$0		\$189,751	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Stanislaus (East Side) Division									
New Melones Dam & Reservoir	\$320,010,647	\$0	\$0	\$17,400,000	\$0	\$0	\$0	\$302,610,647	\$0
New Melones Powerplant	\$64,211,307	\$0	\$0	\$0	\$0	\$0	\$0	\$64,211,307	\$0
New Melones RSRCS - Roof Adm/Vhl St	\$378,917	\$0	\$0	\$0	\$0	\$0	\$0	\$378,917	\$0
Trinity River Division									
Bella Vista Water District - Distribution System	\$3,332,757	\$0	\$0	\$0	\$0	\$3,332,757	\$0	\$0	\$0
Buckhorn Dam PL [PL 102-575, Sec. 3406(b)(23)]	\$36,993,699	\$36,875,799	\$0	\$0	\$117,900	\$0	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Clear Creek Conveyance System	\$4,740,196	\$0	\$0	\$0	\$0	\$0	\$0	\$4,740,196	\$0
Clear Creek Powerplant 12-kv Standby	\$16,065	\$0	\$0	\$0	\$0	\$0	\$0	\$16,065	\$0
Clear Creek Switchyard	\$430,572	\$0	\$0	\$0	\$0	\$0	\$0	\$430,572	\$0
Clear Creek Tunnel	\$49,952,739	\$0	\$0	\$0	\$0	\$0	\$0	\$49,952,739	\$0
Cow Creek Conveyance System	\$2,700,306	\$0	\$0	\$0	\$0	\$0	\$0	\$2,700,306	\$0
CVP Radio Network - Trinity Division	\$54,642	\$0	\$0	\$0	\$0	\$0	\$0	\$54,642	\$0
Folsom Switchyard (Trinity River Division)	\$25,500	\$0	\$0	\$0	\$0	\$0	\$0	\$25,500	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Judge Francis Carr Powerhouse	\$42,238,196	\$0	\$0	\$0	\$0	\$0	\$0	\$42,238,196	\$0
Lewiston Diversion Dam	\$3,818,709	\$0	\$0	\$0	\$0	\$0	\$0	\$3,818,709	\$0
Lewiston Fish Hatchery	\$3,315,736	\$3,315,736	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lewiston Powerplant	\$440,687	\$0	\$0	\$0	\$0	\$0	\$0	\$440,687	\$0
Lewiston Temperature Curtain	\$955,214	\$955,214	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Permanent Operating Facilities - Trinity	\$355,261	\$0	\$0	\$0	\$0	\$0	\$0	\$355,261	\$0
Restoration - Lewiston Fish Hatchery	\$1,258,074	\$1,258,074	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Shasta 230-kv Switchyard (Trinity River Division)	\$290,001	\$0	\$0	\$0	\$0	\$0	\$0	\$290,001	\$0
Spring Creek Debris Dam & Reservoir	\$3,710,490	\$0	\$0	\$0	\$0	\$0	\$0	\$3,710,490	\$0
Spring Creek Powerplant	\$14,472,195	\$0	\$0	\$0	\$0	\$0	\$0	\$14,472,195	\$0
Spring Creek Powerplant 13.8-kv Standby	\$28,098	\$0	\$0	\$0	\$0	\$0	\$0	\$28,098	\$0
Spring Creek Switchyard	\$554,367	\$0	\$0	\$0	\$0	\$0	\$0	\$554,367	\$0
Spring Creek Tunnel	\$15,155,527	\$0	\$0	\$0	\$0	\$0	\$0	\$15,155,527	\$0
Tracy Switchyard	\$1,017,640	\$0	\$0	\$0	\$0	\$0	\$0	\$1,017,640	\$0
Trinity Dam & Reservoir	\$92,703,186	\$0	\$0	\$0	\$0	\$0	\$0	\$92,703,186	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Trinity Powerplant	\$11,987,121	\$0	\$0	\$0	\$0	\$0	\$0	\$11,987,121	\$0
Trinity River Basin Action Program	\$8,073,092	\$8,073,092	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Trinity River Restoration Project	\$313,445	\$0	\$0	\$0	\$0	\$0	\$0	\$313,445	\$313,445
Trinity Switchyard	\$384,174	\$0	\$0	\$0	\$0	\$0	\$0	\$384,174	\$0
Whiskeytown Dam & Reservoir	\$17,733,127	\$0	\$0	\$0	\$0	\$0	\$0	\$17,733,127	\$0
Whiskeytown Temperature Curtain	\$2,601,457	\$2,601,457	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Wintu Pumping Plant	\$1,159,763	\$0	\$0	\$0	\$0	\$0	\$0	\$1,159,763	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Leased to State of California									
Los Banos Waterfowl	\$40,767	\$40,767	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Mendota Waterfowl	\$86,147	\$86,147	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Merced National Wildlife	\$185,225	\$185,225	\$0	\$0	\$0	\$0	\$0	\$0	\$0
San Luis Waste Way	\$88,236	\$88,236	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Western Facilities									
Pacheco Pumping Plant Substation	\$1,337,677	\$0	\$0	\$133,768	\$0	\$1,203,910	\$0	\$0	\$0
Coyote Pumping Plant Substation	\$1,824,360	\$0	\$0	\$182,436	\$0	\$1,641,924	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Tracy Substation 69 kv to Delta-Mendota Canal	\$2,464,394	\$0	\$0	\$0	\$0	\$0	\$0	\$2,464,394	\$0
Western - Other	\$342,476,124	\$0	\$0	\$0	\$0	\$8,568,500	\$0	\$333,907,624	\$0
Grand Total	\$3,693,719,669	\$102,344,970	\$31,810,865	\$335,957,141	\$340,872,120	\$597,617,151	\$56,875,000	\$2,228,242,422	\$28,495,676

1. The Cost Allocation Study represents the final cost allocation for CVP facilities subject to the 2030 repayment requirement. It also includes water service contracts, repayment contracts, and CVPIA facilities that have post-2030 repayment obligations. Costs for these facilities would be incorporated in the updated allocation resulting from the final CVP Cost Allocation Study but would continue to have separate repayment terms.
2. Excludes interest during construction (IDC).
3. Excludes Folsom safety-of-dams costs not in repayment (\$120,755,310).
4. Mitigation costs are included as part of the net costs allocated in SCRB.
5. Includes Keswick Fish Trap – CVPIA (\$2,581,549).
6. Includes Shasta Temperature Control Device - CVPIA (\$86,738,188).

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Key Terms

- **Amortization:** Pay off gradually over time by periodic payments of principal and interest.
- **Ancillary services:** Energy products used to help maintain grid stability and reliability. These services are ordinarily thought of as being transmission-related and not power-related products for the purposes of ratesetting and repayment.
- **Appraisal level:** A level of accuracy and effort associated with an engineering cost estimating technique to estimate the cost of constructing facilities. The estimate is generally acceptable to determine the overall magnitude of costs but would not be used to estimate costs for entering into contracts. Per Reclamation Directives and Standards FAC 09-01, appraisal level cost estimates are used in appraisal reports or the like to determine whether more detailed investigations of a potential project are justified. These estimates may be prepared from cost graphs, simple sketches, or rough general designs which use the available site-specific design data.
- **Authorized purpose:** A project purpose authorized by an act of Congress.
- **Base year:** The starting point year used to measure relative changes in an economic variable such as a general price index.
- **Biological opinion (BO):** An opinion issued by a Federal agency whether a proposed action may endanger listed species or destroy critical habitat.
- **Capitalization:** Converting a schedule of periodic values into a single (annualized) value by dividing the payments by a factor which is dependent on the interest rate selected.
- **Capitalized value:** The single value developed through the capitalization process.
- **Climate change:** A change in the state of the climate identified by using statistical tests, by changes in the mean and/or other statistical properties, measured over an extended period, typically decades or longer.
- **Construction costs:** Costs of constructing physical project features including contract (direct) costs, land and land rights, relocation of existing property, clearing and restoring lands, service facilities, designs, investigations, project management, and other general project-specific expenses.
- **Construction in abeyance:** Reclamation construction costs associated with temporarily suspended construction activities that Congress has not de-authorized.

- **Cost allocation:** The process of distributing the costs of a multipurpose project among its authorized purposes in order to determine actual reimbursable and non-reimbursable costs and the basis for assignment of costs to beneficiaries for repayment.
- **Cost sharing:** The value of non-Federal partners' monetary or in-kind contributions and that portion of the costs of a federally assisted project or program that is not borne by the Federal Government.
- **CVP yield:** Water from the Central Valley Project that is available for use.
- **Deferred costs:** Costs already incurred but not yet assigned to an authorized project beneficiary for repayment because of operation of law or policy.
- **Diminishable facility:** A multipurpose facility that can be diminished in size (resized) for a single-purpose use.
- **Direct assigned costs:** Costs that have been directly assigned for repayment (or designated as non-reimbursable) based on legislation, policy, and/or agreement and thus not subject to the cost allocation process.
- **Economic benefits:** The value of project accomplishments measured in monetary terms, which is measured by the amount that most people are willing to pay to use a given quantity of a good or service or the smallest amount that most people are willing to accept to forego the use of a given quantity of a good or service.
- **Economic life:** The period during which an asset is expected to yield a return.
- **Financially integrated:** The CVP is financially integrated in that repayment is applied to the total cost of the project and not individual project features.
- **Gross Domestic Product (GDP):** The total output of goods and services produced within a given country in a particular time period.
- **Hydropower:** Electric power generated whenever water impounded by a dam is routed through the penstocks and then spun through turbines. It can also be generated in run of the river situations when it flows through in-stream facilities.
- **Implicit price deflator (also referred to GDP deflator):** A measure of price inflation/deflation with respect to a specific base year calculated as the ratio of nominal GDP relative to real GDP.
- **Incremental costs:** Costs added to a plan to accommodate the addition of a purpose or objective, or for increasing the scale of service to one or more purposes.
- **Incremental Level 4 water:** The additional increment of water above Level 2 required for optimal wetland habitat management.

- Joint cost: Costs which serve more than one, and often several purposes or objectives measured as the difference between the total cost of the project and the separable costs across all project purposes.
- Joint cost factors (also referred to as remaining justifiable expenditure factors): The percentage of remaining joint costs distributed among each project purpose.
- Justifiable expenditure: The maximum amount of costs to be allocated to a project purpose and is the lesser of benefits attributable to a purpose and the cost of a hypothetical single-purpose alternative project generating the same level of benefits.
- Land fallowing: Leaving farmland unplanted for a season.
- Least cost alternative: An alternative project that will generate the same level of benefits at the lowest cost possible.
- Level 2 refuge water: The historical average refuge water deliveries specified in the 1989 Report. It is the baseline water deliveries required for wildlife habitat management.
- LIDAR: A surveying device that emits pulsed laser light to measure distance, Light Detection and Ranging.
- Long-term generation (LTGEN): A Reclamation-developed model for estimating power capacity on a monthly time step.
- Major cost driver: The material that causes a large change in a facility's cost.
- Market price: The price users or consumers may expect to pay to a third-party provider for an asset, product, or service.
- Mitigation: Projects, programs, or activities intended to offset or lessen adverse impacts to fish and wildlife resources (and other natural resources) caused by the construction and operation of a project.
- Multipurpose project: A project designed to serve more than one purpose. For example, a dam that supplies water for agricultural and domestic uses, provides flood control, and generates power.
- Non-diminishable facility: A multipurpose facility that cannot be reduced in size when estimating the single-purpose cost.
- Opportunity cost: The value of highest valued alternative use of that resource.
- Optimization model: A method for finding the most cost-effective or highest achievable performance under given constraints by maximizing desired factors and minimizing undesired one.

- Period 1 (first period): Conditions as represented in the 1975 CVP cost allocation update (under the two-period allocation/repayment approach).
- Period 2 (second period): Conditions under current and projected CVP operations and benefits (under the two-period allocation/repayment approach).
- Period of analysis: The period of analysis should be the shorter of (1) the period of time over which the plan, project, or activity being analyzed can reasonably be expected to have beneficial or adverse effects, or (2) a period of time not to exceed 100 years. In the context of the CAS, it represents a prospective 100-year timeframe.
- Plant-in-service: Facilities that have been completed and provide benefits to the project.
- PLEXOS: Energy market modeling software that estimates power benefits on an hourly basis.
- Preference power: The principle that public not-for-profit entities have the “first right” to purchase energy and capacity generated at Federal facilities. Generally such not-for-profit entities have preference to purchase Federal power at Federal water resource projects.
- Preference power customers: The not-for-profit entities that under Reclamation law and policy have preference and priority to power generated at Federal water resource projects. “First preference power customers” are a subset of preference power customers who are entitled to preference power because under Reclamation law they are defined as being within a county of origin (Trinity, Calaveras, and Tuolumne).
- Preference power generation: Generation produced from project facilities that is available to be marketed to the preference power customers.
- Present value: Incorporates the concept of the time value of money and measures in today’s dollars what the value of receiving a specific amount at some future date assuming a specified interest rate.
- Profit: Revenue generated by selling a product minus all costs of production; also referred to as net revenue.
- Project beneficiaries: The persons or groups who are legislatively authorized to receive benefits from the project.
- Project-use energy (PUE): Power and energy used for project operations, e.g., main conveyance pumping, designated drainage pumping, and other designated miscellaneous electric loads directly associated with the operation of the project.
- Prospective analysis: An analysis that focuses on projected future (prospective) conditions and outcomes.

- Ratesetting: The process of determining annual CVP water rates for irrigation and M&I purposes provided for in water service contracts.
- Replacement, additions, and extraordinary maintenance (RAX): Major nonrecurring operations or maintenance on a project facility to ensure the continued safe, dependable, and reliable delivery of authorized project benefits.
- Reasonable and prudent alternatives (RPA): Alternative methods of project implementation, offered in a biological opinion reaching a jeopardy or adverse modification conclusion that would avoid the likelihood of jeopardy to the species or adverse modification of critical habitat.
- Remaining joint costs: The costs of joint use facilities that remain after all separable cost have been deducted from total project costs.
- Remaining justifiable expenditure: The justifiable expenditure for a purpose minus the separable costs for that purpose.
- Resource adequacy: Concept used by the California Independent System Operator to ensure that sufficient capacity exists to ensure reliable operation of the grid.
- Safety of Dams (SOD): A Reclamation program to either retrofit or modify dams to reduce or eliminate potential hazards associated with seismic and/or hydrologic risk of failure. It is not a project purpose.
- Separable costs: The costs that result by taking the difference between the cost of the multipurpose project and the cost of the same project with the purpose omitted. A series of cost estimates should be prepared representing the multipurpose project without each purpose. A purpose's separable costs would not only include its specific costs, but also the costs of multipurpose facilities which were needed for the addition of that purpose.
- Separable costs-remaining benefits (SCRB): A method of cost allocation where each purpose in a multipurpose project is assigned the separable costs of including that purpose plus a portion of the remaining joint costs.
- Separable joint costs: The portion of multipurpose facility costs attributed to a single purpose.
- Single-purpose alternative (SPA): The cost of the most economical (least cost) alternative which would likely be built as a single-purpose Federal project, and that would provide equivalent benefits for a single purpose as the multipurpose project provides.
- Single-purpose facility: Costs of the most economical alternative which would likely be built as a Federal project to provide equivalent benefits for a single purpose.
- Specific costs: Costs of individual physical facilities and other costs that serve only a single purpose.

- Sub-allocation: Separating an authorized project purpose or function into smaller constituent components (e.g., sub-purposes) for the purposes of a cost allocation.
- Sub-purpose: Individual component that comprises a project purpose.
- Thermal power: Power sourced from heat energy, historically steam, but can also include natural gas or nuclear-fueled generators.
- Time value of money: The concept that money available at the present time is worth more than the same amount in the future due to its potential earning capacity.
- Two cost allocation and two-period repayment approach: A modified cost allocation/repayment approach used in the CVP CAS to recognize both the historical and prospective benefits of the project.
- Water rights: The right to use water from a river, stream, body of water, or source of groundwater.
- Water year type: The hydrologic classification of individual water years; for the CAS, five water year types were used: wet, above average, below average, dry, and critical.
- Weighted average: An average resulting from multiplying each component by a factor reflecting its importance.
- Wildlife refuge: A Federal area administered for the protection of fish and wildlife as well as wildlife management areas administered by the State of California and the Grasslands Resource Conservation District.

References

- California Energy Commission (CEC). 2015. Estimated Cost of New Renewable and Fossil Generation in California. March 2015.
- Central Valley Project Improvement Act (CVPIA) Refuge Water Supply Program. 2009. Independent Review Panel Report. Undelivered Water: Fulfilling the CVPIA Promise to Central Valley Refuges. November 3, 2009.
- Council on Environmental Quality (CEQ). 2013. Principles and Requirements for Federal Investments in Water Resources (PR&G). March 2013.
- GAO. *See* U.S. General Accounting Office.
- Engineering News-Record (ENR). Various Years. Construction Economics. <https://www.enr.com/economics>. Accessed October 2017.
- Reclamation. *See* U.S. Department of the Interior, Bureau of Reclamation.
- U.S. Department of Interior. 2000. Record of Decision, Trinity River Mainstem Fishery Restoration Final Environmental Impact Statement/Environmental Impact Report. Decision by the U.S. Department of Interior, December 2000.
- U.S. Department of the Interior, Bureau of Reclamation. 1989. Report on Refuge Water Supply Investigations, Central Valley Hydrologic Basin, California. Mid-Pacific Region. March 1989.
- _____. 1970. Central Valley Project California, Reallocation of CVP Costs. Mid-Pacific Region.
- _____. 1975. Changes Caused by the Reallocation of the Central Valley Project Costs. Short Form Reallocation. Mid Pacific Region. March 8, 1976.
- _____. 1988. Ratesetting Process, Irrigation Ratesetting Document, Central Valley Project, California. 1988.
- _____. 1993. Proposed Interim Ratesetting Policy Municipal and Industrial Water, Central Valley Project, California. Sacramento, California. December 1993.
- _____. 1995. Reclamation Manual, Directives and Standards (D&S), Final Cost Allocations (PEC-P01). Updated June 16, 2015.
- _____. 2001. Central Valley Project Cost Allocation Study. Mid-Pacific Region. May 2001.
- _____. 2007. Reclamation Manual, Directives and Standards (D&S), Cost Estimating (FAC 09-01). Updated July 20, 2016.

- _____. 2008. Reclamation Manual, Directives and Standards (D&S), Allocation of Operation, Maintenance, and Replacement Costs (PEC-P07). Updated July 24, 2015.
- _____. 2013a. Project Financial Statement, Central Valley Project, California-Consolidated. Mid-Pacific Region. September 2013.
- _____. 2013b. Reclamation Manual, Directives and Standards (D&S), Project Cost Allocations (PEC 01-02). Updated September 10, 2015.
- _____. Various Years. O&M Cost Index. <https://www.usbr.gov/assetmanagement/cost.html>. Accessed October 2017.
- U.S. General Accounting Office (GAO). 1992. Bureau of Reclamation Central Valley Project Cost Allocation Overdue and New Method Needed. Washington, D.C. March 31, 1992.
- U.S. Water Resources Council (WRC). 1983. Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. March 10, 1983.

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER
AGENCY, *ET AL.*,

Plaintiffs,

v.

No. 14-817C
(Judge Tapp)

THE UNITED STATES,

Defendant.

EXPERT DISCLOSURE

Pursuant to Rule 26(a)(2)(C) of the Rules of the United States Court of Federal Claims (RCFC), defendant, the United States, makes the following disclosures of expert testimony. This disclosure is based upon information reasonably available to us, and we reserve the right to supplement it as we obtain additional information.

The Government may call Spencer Walden to provided testimony concerning the how the Government calculated damages. Mr. Walden's opinions are based upon his experience as an accountant with the Bureau of Reclamation. Mr. Walden is currently a Refuge Water Supply Specialist in the Bay-Delta Office within the California-Great Basin Region of the Bureau of Reclamation, Department of the Interior. Prior to that, Mr. Walden was the CVPIA Accountant in the Financial Management Division of the California-Great Basin Region since joining the Bureau of Reclamation in 2017. He holds a bachelor's degree from San Francisco State University.

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In general, the damages amount is the difference between what was paid and what should have been paid. What was paid by power during FY2008 to FY2020 was \$332,842,422. During those years, the plaintiff's percentage of Base Resource¹ varied from approximately 39% (FY2008 to FY2014) and approximately 42% (FY2015 to FY2020). By applying those percentages annually to the amount collected annually, the plaintiff's payments totaled \$136,514,622.

In order to calculate the amount that should have been paid, first Mr. Walden will describe the methodology consistent with the court's opinion, then, calculate the annual amount and apply the Base Resource percentages on an annual basis. For determining power's M&R payment, Reclamation will apply the appropriate allocation percentage identified from the ten-year rolling average for repayment of the CVP to actual water receipts, inclusive of both discretionary payments and non-discretionary payments using a two-year lag. The mathematical equation is as follows: $((\text{Water CVP Restoration Fund receipts} + \text{Friant Surcharge receipts}) / \text{Water's CVP \%}) * \text{Power's CVP \%}$.

Power's M&R payment uses the two-year lag for several important reasons. To set bills for the upcoming fiscal year, WAPA needs the power M&R payment information in August of preceding fiscal year. The allocation percentages provided by the regional economist are not available until six to nine months following the close of the federal fiscal year (September 30). Additionally, water receipts are not known until after the fiscal year closes. Therefore, Reclamation is unable to determine power's share

¹ Provided by Autumn Wolfe, the Rates Manager at the Sierra Nevada Region – Western Area Power Administration and subsequently produced in response to Request for Production 3-1.

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of the M&R fund in the fiscal year until the year closes. For example, for fiscal year 2021, Reclamation must send a letter notifying WAPA of power's M&R payment in August 2020. To determine power's M&R payment for fiscal year 2021, Reclamation uses allocation data from FY2010 – FY2019, (the most recent 10-year average allocation for repayment of CVP) and actual water cash receipts from FY2019 (the most recent data for water receipts).

CVPIA Section 3407(d)(2)(A) states “taking into account all funds collected under this title,” based on the language the calculation includes all sources of water receipts under the Act, inclusive of pre-renewal charges, tiered water rates, water transfer charges, Friant surcharges, M&I surcharges, and mitigation and restoration charges. Although Friant surcharges ceased to be deposited into the CVP Restoration Fund following FY2009, those receipts are still included in the calculation of total water collections based on Section 100007 of Pub. L. 111-11 which states:

“(1) The Secretary shall continue to assess and collect the charges provided in section 3406(c)(1) of the Reclamation Projects Authorization and Adjustment Act of 1992 (Public Law 102-575; 106 Stat. 4721), as provided in the Settlement; and”
 “(2) those assessments and collections shall continue to be counted toward the requirements of the Secretary contained in section 3407(c)(2) ...”

Applying the above method to the period in this case, FY2008 to FY2020, starts with the actual receipts collected from water in FY2006 and the allocation data from FY1997 to FY2006. Continuing this process for all applicable years totals \$167,589,580. Using the same Base Resource percentages as above, the plaintiff's percentage share of this totals \$68,359,711.

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The difference between the actuals at the top and the revised calculation consistent with the Court's opinion results in a total damage amount of \$68,154,911.

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August 12, 2021

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER
AGENCY, *ET AL.*,

Plaintiffs,

v.

No. 14-817C
(Judge Tapp)

THE UNITED STATES,

Defendant.

EXPERT DISCLOSURE

Pursuant to Rule 26(a)(2)(C) of the Rules of the United States Court of Federal Claims (RCFC), defendant, the United States, makes the following disclosure of expert testimony. This disclosure is based upon information reasonably available to us, and we reserve the right to supplement it as we obtain additional information.

The Government may call Steve Pavich to provide testimony concerning the percentages used to calculate proportionality for CVPIA Restoration Fund payments. Mr. Pavich's opinions are based upon his experience as an Economist. Mr. Pavich is currently an Economist at the Bureau of Reclamation (Reclamation) and works in the California-Great Basin Region located in Sacramento, California. Mr. Pavich has been at his current Economist position since November 2013. In this position, he uses his technical expertise and experience to provide support in the areas of cost allocation, cost-benefit analyses, ability-to-pay analyses, and to

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conduct general economic research and analysis supporting water resource management in the Central Valley Project (CVP). He routinely collaborates with internal staff and key stakeholders on issues related to cost allocation in the CVP.

Mr. Pavich also served in various roles prior to his employment at Reclamation, primarily providing economic and environmental consulting services to public and private sector clients. He was a Senior Economist at Cardno ENTRIX, Inc. (2005-2013), Economist/Planner at EDAW (2000-2005), and Environmental Planner at Foster Wheeler Environmental Corporation (1998-2000). During his consulting career, Mr. Pavich focused on agricultural and natural resource economics, applied economic analysis, recreation planning, and environmental compliance. His expertise has been applied to a wide range of projects related to land use policy, natural resource management, water resources, recreation, agriculture, and infrastructure development. His economics experience includes assessing the economic and fiscal impacts of major water supply and renewable energy projects, long-range land use and resource management plans, as well as socioeconomic impact analyses. He has applied quantitative techniques to estimate economic impacts of projects and policies, including the application of regional economic models and market and non-market valuation techniques, particularly in the context of recreation and water resource management. His quantitative background includes regional economic input-output modeling and statistical analysis.

Mr. Pavich's educational background includes multiple degrees, including a BA, Economics, University of California, Davis (1994) and MS, Agricultural & Resource Economics, Oregon State University (1999).

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Mr. Pavich's opinions are based upon his experience detailed above and the following summary of facts.

Mr. Pavich has been the lead on cost allocation analyses for the CVP since 2018. This includes performing the annual plant-in-service and operations and maintenance (O&M) cost allocations, which implement the Final CVP Cost Allocation Study finalized in January 2020. Mr. Pavich is familiar with Reclamation policy on project cost allocations (Reclamation Manual PEC 01-02). As the lead for cost allocation in the CVP, Mr. Pavich also supports cost allocation processes related to the Central Valley Project Improvement Act (CVPIA), including the development of proportionality percentages for payments into the CVPIA Restoration Fund.

The basis for developing CVPIA proportionality percentages is presented below. The fundamental premise of the CVPIA proportionality methodology is that payments into the Restoration Fund will be distributed in accordance with the CVP plant-in-service allocation as outlined in CVPIA legislation. Specifically, CVPIA Section 3407(d)(2)(a) states that:

The amount of the mitigation and restoration payment made by Central Valley Project water and power users, taking into account all funds collected under this title, shall, to the greatest degree practicable, be assessed in the same proportion, measured over a ten-year rolling average, as water and power users' respective allocations for repayment of the Central Valley Project.

In this context, water users represent irrigation and M&I water contractors; and power users represent commercial power contractors (served by Western Area Power Administration). Repayment obligations are derived from the annual CVP

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plant-in-service cost allocation. Total plant-in-service costs are allocated annually. Repayment obligations do not reflect the allocation of routine O&M costs. Acknowledging that the CVP plant-in-service allocation (and resultant repayment obligations) are used to calculate CVPIA proportionality percentages, multiple assumptions are required to determine which costs are included/excluded from the calculations. Generally, the CVPIA proportionality percentages are based on costs allocated in the Final CVP Cost Allocation Study (CAS), specifically the costs that are allocated to the authorized purposes of the CVP as part of the Separable Cost-Remaining Benefit (SCRB) cost allocation methodology. The CVPIA proportionality percentages further reflect the sub-allocation of water supply and power costs that is used to derive the repayment obligations assigned to Irrigation, M&I, and Commercial Power.

The CVPIA proportionality percentages exclude direct assigned and certain other costs that were excluded from the SCRB methodology in the CAS. A list of all costs included/excluded in the CVPIA proportionality calculations is available in a separate file (refer to Bates number: GOV0000958-959), which are consistent with the assumptions used in the CAS. There are several key CAS assumptions used for CVPIA proportionality calculations that are different than what was used historically (see Joint Exhibit 2). A separate Microsoft Excel file was developed for each year considered in this analysis that applies the assumptions to the respective CVP plant-in-service allocations to derive the annual CVP costs allocated for repayment that are used to calculate CVPIA proportionality percentages. In order to maintain consistency over time, all assumptions on costs included/excluded in the CVPIA

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proportionality percentages have been retroactively applied to all CVP plant-in-service allocations used in this analysis.

CVPIA Section 3407(d)(2)(a) requires the use of a ten-year rolling average of CVP costs allocated for repayment; therefore, the proportionality calculations are based on multiple years of the CVP plant-in-service allocation. The proposed proportionality percentages used in this case cover the time period 2008 to 2019. Because the 2008 percentages require allocation data back to 1999 (in order to compute the ten-year rolling average), the methodology presented here applies to all annual CVP plant-in-service allocations from 1999 to 2019.

Mr. Pavich developed all of the data, including the allocated costs for repayment and related CVPIA proportionality percentages, shown in the Microsoft Excel file titled “SUMMARY_CVPIA Croffset Alloc Scenarios_FY95-FY19_R (FINAL).” Specifically, the discussion that follows focuses on the Excel file worksheet titled “Proportionality.” For each year, the value in the “plant-in-service” column is the allocated costs for repayment for Irrigation, M&I and Commercial Power, respectively, in any given year based on the methodology outlined above. For example, in Fiscal Year (FY) 2019, the annual allocated costs for repayment are as follows: Irrigation (\$1,112,536,629), M&I (\$126,041,929), and Commercial Power (\$656,521,839); on a percentage basis, the allocated costs for repayment are distributed as follows: Irrigation (58.71%), M&I (6.65%), and Commercial Power (34.64%). However, the relevant percentages for CVPIA proportionality are shown in the “10-year rolling average” column, which represents the proportion of total reimbursable costs over the preceding 10-year period for Irrigation, M&I and Commercial Power. For example, in FY-2019,

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the 10-year rolling average proportionality percentage for Irrigation (60.09%) is calculated as the sum of total allocated costs to Irrigation between 2010 and 2019 (\$11,508,808,346) divided by the total over the same period for the three reimbursable functions (\$19,152,670,394); similar calculations are made for M&I (5.79%) and commercial power (34.12%). The 10-year rolling average was computed for every year between 2002 and 2019.

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August 12, 2021

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER
AGENCY, *ET AL.*,

Plaintiffs,

v.

No. 14-817C
(Judge Tapp)

THE UNITED STATES,

Defendant.

SUPPLEMENTAL EXPERT DISCLOSURE

Pursuant to Rule 26(a)(2)(C) of the Rules of the United States Court of Federal Claims (RCFC), defendant, the United States, makes the following supplemental disclosure of expert testimony. This disclosure is based upon information reasonably available to us, and we reserve the right to supplement it as we obtain additional information.

The Government may call Steve Pavich to provide testimony concerning the percentages used to calculate proportionality for CVPIA Restoration Fund payments. Mr. Pavich's opinions are based upon his experience as an Economist. Mr. Pavich is currently an Economist at the Bureau of Reclamation (Reclamation) and works in the California-Great Basin Region located in Sacramento, California. Mr. Pavich has been at his current Economist position since November 2013. In this position, he uses his technical expertise and experience to provide support in the

- 2 -

areas of cost allocation, cost-benefit analyses, ability-to-pay analyses, and to conduct general economic research and analysis supporting water resource management in the Central Valley Project (CVP). He routinely collaborates with internal staff and key stakeholders on issues related to cost allocation in the CVP.

Mr. Pavich may testify concerning the following assumptions from the Final Cost Allocation Study (2020) that represent a change from Joint Exhibit 2 and the rationales for that change described below.

Assumptions included below are those that represent change from Joint Exhibit 2

- Costs allocated only to the authorized purposes of the CVP in the Separable Cost-Remaining Benefits (SCRB) used in the Final Cost Allocation Study (CAS):

INCLUDE¹

- CVPIA Section 3702(d)(2)(a) states that: “The amount of the mitigation and restoration payment made by Central Valley Project water and power users, taking into account all funds collected under this title, shall, to the greatest degree practicable, be assessed in the same proportion, measured over a ten-year rolling average, as water and power users' respective allocations for repayment of the Central Valley Project”. Accordingly, only CVP costs that are **allocated** for repayment should be included in CVPIA proportionality; these costs were included in the SCRB cost allocation in the Final CAS.
- Other CVP costs that are “direct assigned” (and therefore not “allocated” for repayment) should not be included in CVPIA proportionality; these are the costs that were excluded from the SCRB cost allocation in the Final CAS.
- Only costs that support the authorized purposes of the CVP that are subject to allocation per the SCRB methodology should be included in the

¹ “INCLUDE” means the Government included the costs in calculating damages. “EXCLUDE” means the government excluded the costs in calculating damages.

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calculation of proportionality because they reflect investment in the financially- and operationally-integrated CVP.

- Fish & Wildlife Enhancement costs: NOT APPLICABLE
 - These costs were listed in Mr. Wright's rebuttal report, but they do NOT represent a change from Joint Exhibit 2 because these costs are nonreimbursable and do not affect the proportionality percentages that only apply to irrigation, M&I, and commercial power; therefore they are "not applicable."
- Pacific NW-Pacific SW Intertie (PACI) owned by WAPA: INCLUDE
 - Included in the proportionality percentages because they were included in the SCRB allocation of CVP costs in the Final CAS
 - PACI costs were included in the Separable Costs Remaining Benefits (SCRB) allocation because when PACI was constructed, it was authorized to be used to enable the CVP to firm its hydropower output on behalf of the project. Additionally, the federally-owned portion of the line is directly interconnected to the CVP power transmission system.
- Water distribution systems (repayment contracts): EXCLUDE
 - Excluded from the proportionality percentages because they were excluded in the SCRB allocation of CVP costs in the Final CAS. These costs represent a direct-assigned cost.
 - Water distribution systems are not financially- and operationally-integrated in the CVP.
- San Felipe Unit costs: EXCLUDE
 - Excluded from the proportionality percentages because they were excluded in the SCRB allocation of CVP costs in the Final CAS; they represent a direct-assigned cost.
 - San Felipe Unit out-of-basin facilities are not financially- and operationally-integrated in the CVP.
- Repayment obligations -- USACE (included in water rates): EXCLUDE

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- Excluded from the proportionality percentages because they were excluded in the SCRB allocation of CVP costs in the Final CAS; they represent a direct assigned cost.
 - USACE repayment obligations are not financially- and operationally-integrated in the CVP
- WAPA retired assets (included in water rates): EXCLUDE
 - Excluded from the proportionality percentages because they were excluded in the SCRB allocation of CVP costs in the Final CAS; represent a direct-assigned cost
 - WAPA retired assets are not part of current CVP operations.
- Safety of Dams costs (15% reimbursable share): EXCLUDE
 - Excluded from the proportionality percentages because were excluded in the SCRB allocation of CVP costs in the Final CAS; represent a direct-assigned cost (cost recovery for Safety of Dams costs are prescribed by law).
 - Safety of Dams costs do not generate new benefits in the CVP; they perpetuate existing benefits.
- Folsom Safety of Dams not in repayment (not currently allocated): EXCLUDE
 - Excluded from the proportionality percentages because they were excluded in the SCRB allocation of CVP costs in the Final CAS; represent a direct-assigned cost (cost recovery for Safety of Dams costs are prescribed by law).
 - Safety of Dams costs do not generate new benefits in the CVP; they perpetuate existing benefits.
- CVPIA-authorized construction costs (not currently allocated): EXCLUDE
 - Excluded from the proportionality percentages because they were excluded in the SCRB allocation of CVP costs in the Final CAS.
 - CVPIA is a separate program distinct from the CVP with its own provisions for cost allocation and recovery.
 - It is not appropriate to include CVPIA costs in calculating proportionality under CVPIA as that would involve circular reasoning.

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- Interest During Construction: EXCLUDE
 - IDC recorded in Sch. 1 of the CVP financial statements is only charged to M&I and commercial power for repayment purposes; it is not equitable to include recorded IDC in proportionality percentages because it would unfairly skew costs since IDC associated with Irrigation is not subject to repayment.
- Capitalized OM&R/Replacements (after FY-13): EXCLUDE
 - Excluded from proportionality percentages because represents O&M cost of CVP, not construction subject to repayment
 - Capitalized OM&R costs do not generate new benefits in the CVP; they perpetuate existing benefits.

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October 21, 2021

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER
AGENCY, *ET AL.*,

Plaintiffs,

v.

No. 14-817C
(Judge Tapp)

THE UNITED STATES,

Defendant.

EXPERT DISCLOSURE

Pursuant to Rule 26(a)(2)(C) of the Rules of the United States Court of Federal Claims (RCFC), defendant, the United States, makes the following disclosure of expert testimony. This disclosure is based upon information reasonably available to us, and we reserve the right to supplement it as we obtain additional information.

The Government may call Dr. William (Bill) J. Taylor to provide testimony concerning the role and appropriateness of the U.S. Bureau of Reclamation's (Reclamation) cost allocation in this case. Dr. Taylor holds degrees in Agricultural Economics from Purdue University (B.S. and M.S.) and University of Illinois (Ph.D.). Dr. Taylor was an Assistant Professor of Agribusiness Management at Virginia Tech from 1986 to 1992 and maintained an Adjunct Professorship at the Ohio State University from 1992 to 2004. He has continuously been employed by the federal government starting in May 1992 with the U.S. Department of Agriculture (USDA) switching to the U.S. Department of the Interior (DOI) in 2004. Bill has been a Bureau of Reclamation economist since December 2004, having served in the California Great Basin Region as an Economist in the Finance and Planning Divisions, and in the Denver Policy office as a Policy lead Economist for Economics and Planning. Since October 2010, he has been involved in the Final Central Valley Project (CVP) Cost Allocation in positions within the California Great Basin Region and Office of Policy and Programs.

Cost allocations are required for projects that serve more than one purpose or for multipurpose projects that do not have specified cost recovery in the authorizing language. In the absence of a prescribed cost allocation for recovery, there needs to be a

- 2 -

method to recover costs from multiple purposes. An elementary cost allocation could divide costs evenly between two purposes but this likely would not reflect the relative benefits or contribution to society of the purposes. More elaborate cost allocation approaches emerged based on a myriad of factors, each with their own strengths. A project is generally considered to be a single purpose project, one that only serves one group of purposes (beneficiaries) or multipurpose with multiple beneficiaries. In some cases there are beneficiaries that were not intended or not identified with a responsibility to participate in the recovery of project costs. Unintended beneficiaries that have no responsibility in recovery of project costs are called incidental beneficiaries and generally are not considered project purposes.

An interagency agreement between DOI, the U.S. Army Corp of Engineers and the Federal Power Commission in 1954 established procedures for conducting cost allocations. The interagency agreement identified three acceptable methods: Separable cost remaining benefits (SCRB), Alternative Justified Expenditure (AJE) and use of facilities. The SCRB approach was preferable for general application and became the standard for Reclamation's allocations since 1954. The SCRB approach allocated costs unique to a purpose (separable) directly to that purpose and those costs that remained were allocated on the remaining benefits to each project purpose accounting for separable costs.

The first step in performing a SCRB cost allocation is to identify the maximum amount that a project purpose would pay (*i.e.*, justifiable expenditure). Generally speaking, a rational individual would not pay more for something than they would have to spend to get it elsewhere and never would they spend more that they think it is worth to them. In a SCRB allocation, the justifiable expenditure would be the lesser of the benefits for that purpose or the cost of a specific project just to provide that particular benefit (*i.e.*, single purpose alternative). There is no reason that a consumer (purpose) would ever spend more than what it is worth to them or what they could get it for elsewhere.

Within the SCRB method, costs are either identified as separable costs to a project purpose or joint costs. Separable costs are costs that are only incurred in connection with that project purpose. Cost estimating engineers develop a cost estimate for the existing project (as is with) and a cost estimate without each purpose (as is without). Subtracting the "as is without" cost for each purpose from the total project "as is with" cost results in the separable cost, which yields the costs that would be saved if the purpose was not included. Once all separable costs are defined, they are summed and subtracted from total project costs to reveal the total joint costs of the project.

From the justifiable expenditure, the separable costs are subtracted for each purpose revealing how much justifiable expenditure (or benefit as the SCRB name implies) remains for each purpose. Remaining justifiable expenditure is computed for each purpose and totaled for the project. The proportion of the remaining justifiable expenditure for each purpose of the total remaining justifiable purpose becomes the joint

- 3 -

cost percentage for each project purpose. This percentage is used to allocate the joint costs to each purpose.

The sum of the separable and joint cost allocated to each purpose becomes the total cost for each purpose and fully recovers the total cost of the project. These costs and benefits are indexed to a common time period. Costs are frequently separated into construction (and interest during construction) costs and operations, maintenance and replacement (OM&R) costs. Construction and OM&R costs are frequently allocated separately (as in the CVP) as there are typically different underlying conditions for allocating these costs.

One of the first steps in the CVP cost allocation process was defining those costs that needed to be allocated in the CVP and those where the allocation was known or dependent on the results of the CVP final cost allocation. Those costs with known cost assignments were principally driven by preexisting cost assignment. A good example of a known cost assignment are CVP mitigation costs during the period where mitigation is non-reimbursable, prior to 1965 and the passage of PL 89-72 which made these costs reimbursable. A good example of a cost assignment driven by the final cost allocation is safety of dams (SOD) costs where 85% are non-reimbursable and the remaining 15% reimbursable costs are allocated per the CVP final cost allocation.

Approximately \$3.9B of Plant in Service costs were identified in the CVP for the Final Cost Allocation. Of that total, only about \$2.2B required the SCRB to allocate them, as the remainder had prescribed cost assignments. The specific situations, like non-reimbursable mitigation costs, are prescribed by law and are excluded from the SCRB. When Reclamation relies on the "CVP cost allocation" it is the SCRB, and not the whole allocation, that reflects the appropriate allocation to use. Reliance on the allocation as a whole mixes multiple allocation processes and the result is hodge-podge. The CVP cost allocation is not a single layer cost allocation, because once costs are allocated to a purpose, they need to be further allocated to more specific end users. For example, with the category of irrigation costs the need to be further sub-allocated to individual contractors. Sub-allocation of costs typically is not completed through a SCRB approach but rather through a use of facilities approach. Individual contractor's share of water deliveries (use of facilities) determines their share of the irrigation costs assigned to that contractor for recovery in the CVP. SCRB cost allocations are complex and costly, with the Final CVP cost allocation requiring nearly 10 years to complete at a cost of over \$7 million.

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Section 3406(b)(4) of the CVPIA states that “[t]he reimbursable share of funding for this and other facility repairs, improvements, and construction shall be allocated among project water and power users in accordance with existing project cost allocation procedures.” Due to the complexities of the cost allocation at the time that CVPIA was written – including the lack of project-wide joint cost factors – it would be unreasonable to assume that “existing project cost allocation procedures” meant to allocate the costs as any specific feature or as a joint cost; the former would not be project wide and the latter did not exist. The only reasonable alternative would be to assume the law meant to rely on the results of the allocation, *i.e.*, or the proportion of construction allocated to each project purpose (the reimbursable percentage).

Some costs, primarily refuge costs and Trinity River restoration costs are to be recovered from water contractors, power contractors and/or the taxpayer. These costs cannot be allocated on the use of facilities, instead, the CVP has used an investment as a proxy for benefits (reimbursable percentage) to reflect the proportions. There has been a considerable lapse of time between the previous cost allocation (1970 based) and the final cost allocation completed in January 2020. As additions to the project (construction that generates new benefits) are added many are single purpose and all have cost assignments included with the authority for the addition. Reclamation’s practice has been to use the assigned investment in benefit generating assets (construction) recovery to update the SCRB allocation which is the reimbursable percentage now in use. Reclamation has only used this method because it would be too costly or burdensome to generate a new SCRB and use of facilities is precluded because there is no common unit of measure. Given that only about \$2.2B of the \$3.9B costs are allocated through the SCRB, there are a significant amount of CVP costs that have prescribed cost recovery and are recovered by means other than the SCRB. The fact that SOD costs are allocated 85% to the taxpayer reflects Congress’s desire to allocate safety costs independently from project benefits. Inclusion of SOD costs and SCRB costs by summing the allocation would not reflect the principles of cost allocation that the interagency agreement sought to support. If additional costs were added to the allocation process for assignment, they would come either with a predetermined cost assignment or should be distributed like all other funds without assignment.

Based on the 1970 cost allocation that was updated in 1975, distribution systems had been included in the reimbursable percentages used to allocate costs. In the 1993 Business Practice Guidelines (BPGs), it was noted that the reimbursable percentage used for CVPIA should not include distribution systems for the exclusive use of individual Water contractors. A significant portion of the 1993 BPGs were simply not implemented and this provision was included among those that were not implemented. It is apparent today, and in 1993, that the thought process utilized in the development of the 1975 cost allocation update was not consistent with how this information should be used and that individual contractor indebtedness to the federal government should not be considered when looking at project cost recovery. Unfortunately, the BPG was not implemented and CVP continued to utilize the reimbursable percentage inclusive of distribution systems until this practice was corrected with the implementation of the final cost allocation in 2020, when these distribution systems costs were separated from CVP costs and treated

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as direct assigned costs. Direct assigned costs are excluded from the SCRB as they would bias the SCRB results and later they are allocated, typically, based on the results of the SCRB. The contracts and the beneficiaries of those contracts were not changed during the period from enactment as they were generally implemented in the 1950s and 1960s.

The rationale for treating distribution systems cost as direct assigned costs is as follows. Ultimately, what constitutes the water and power users' respective allocations for repayment of the Central Valley Project has been determined in the CVP final cost allocation. First, the CVP is defined to extend to the point where the CVP water or power is transferred to the contractor. When considering benefits from Reclamation investments from a recovery perspective, the end use of the water and power is where benefits are measured. For irrigation water the end point is the production of a particular crop or enterprise. Typically, crops are further processed prior to actual consumption and energy further distributed before consumed. For Power, the end point is where the energy that is sold is to be delivered to end users. In many ways, distribution systems are similar to power lines providing electricity to homes and businesses. Distribution systems are essential for benefits to be achieved from the use of CVP water and power beyond the transaction to CVP contractors. At this point the benefits of the CVP continue but the investment ends. Cost recovery for investment beyond the transaction point is still repayment by the water and power contractor for their business and not the CVP. The CVP Ratesetting Policies make it clear that when a feature (isolated or out of basin) benefits only a contractor (or group of contractors) that the costs will not be shared by all CVP contractors. To include investment for some contractors and not for others does not result in a fair or equitable proportion of what CVP costs are allocated to a project purpose.

In addition to the federal government owning and operating the CVP, it has provided financing services to water contractors (districts) that could not find financing elsewhere to fund distribution systems. Water contractors use distribution systems to convey water from the terminus of the CVP (turnouts) to the place of use (farmer fields). To protect the investment of the federal government, title to those facilities have been retained until the loan is fully matured. At that point, the title transfer process can be initiated, and title reverts to the water contractor. Title transfers are a complicated process and require great effort, which has resulted in distribution system loans maturing and title remaining with the federal government. At present, there are about 10 distribution systems where the title transfer has been initiated and likely more will take place as loans mature. The federal government holding title to the water contractor distribution system does not make that investment part of the CVP, it simply secures the government's investment until maturity.

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August 12, 2021

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER
AGENCY, *ET AL.*,

Plaintiffs,

v.

No. 14-817C
(Judge Tapp)

THE UNITED STATES,

Defendant.

SUPPLEMENTAL EXPERT DISCLOSURE

Pursuant to Rule 26(a)(2)(C) of the Rules of the United States Court of Federal Claims (RCFC), defendant, the United States, makes the following disclosure of expert testimony. This disclosure is based upon information reasonably available to us, and we reserve the right to supplement it as we obtain additional information. This expert disclosure is a supplement to the disclosure of William Taylor that the Government served on August 12, 2021.

The Government may call William Taylor to provide testimony that rebuts the opinions and anticipated testimony of plaintiff's expert, Wiley Wright, concerning the appropriateness of relying upon the 1970/1975 CVP cost allocation versus the 2020 final CVP cost allocation for purposes of identifying those costs appropriate in defining repayment of the CVP when calculating proportionality and associated damages. Dr. Taylor holds degrees in Agricultural Economics from Purdue University (B.S. and M.S.) and University of Illinois (Ph.D.). Dr. Taylor was an Assistant Professor of Agribusiness Management at Virginia Tech from 1986 to 1992 and maintained an Adjunct Professorship at the Ohio State University from 1992 to 2004. He has continuously been employed by the federal government starting in May 1992 with the U.S. Department of Agriculture (USDA) switching to the U.S. Department of the Interior (DOI) in 2004. Bill has been a Bureau of Reclamation economist since December 2004, having served in the California Great Basin Region as an Economist in the Finance and Planning Divisions, and in the Denver Policy office as a Policy lead Economist for Economics and Planning. Since October 2010, he has been involved in the Final Central Valley Project (CVP) Cost

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Allocation in positions within the California Great Basin Region and Office of Policy and Programs.

Mr. Wright presented two key points in his disclosure regarding the appropriate manner in which to define CVPIA proportionality for calculation of damages in case. Mr. Taylor's anticipated responses to these points are summarized below, which is supported by an extended discussion of the relationship between CVPIA proportionality and CVP cost allocation principles.

Plaintiff's Point 1: The prior CVP cost allocation (approved in 1970 and amended in 1975), which serves as the basis of Joint Exhibit 2, provides the most appropriate and least speculative measures of the proportionality limitation that should have applied during the damages period. Any assessment of what power contractors should have paid during the damages period should reflect the facts and circumstances that existed at the time when the charges were levied.

Mr. Taylor's Response to Point 1: The current CVP cost allocation (1975 short form reallocation) used to develop Joint Exhibit 2 is considered an "interim" cost allocation subject to change once the final cost allocation for the CVP was completed. Accordingly, the values presented in Joint Exhibit 2 were considered draft (and therefore non-binding) based on then-current assumptions on how CVP repayment was defined under CVPIA Section 3407(d). Water and power contractors were aware of the interim nature of the 1975 short form reallocation that was used in preparing Joint Exhibit 2, and many stakeholders (including NCPA) were closely involved in the development of the final cost allocation, which replaced all previous interim cost allocations. Reclamation completed and approved the Final CVP Cost Allocation in January 2020, which outlines how repayment on the CVP is defined. In addition, it is important to note that the values shown in Joint Exhibit 2 were never used to define proportionality under CVPIA as a different method was used to calculate payments into the Restoration Fund.

Plaintiff's Point 2: It is not appropriate to implement a retroactive application of the recently approved Final CVP Cost Allocation (2020) solely for purposes of performing damage calculations because it was not in effect during the damages period. Further, the Government does not plan to apply the Final Cost Allocation retroactively to re-calculate and re-bill contractors' past CVP repayment amounts. The Government's initial damage calculation is not reasonable or appropriate because it is based on post hoc adjustments to calculate the allocated costs for repayment of the CVP. Post hoc adjustments are not appropriate because damages should reflect the charges that plaintiffs would have paid had the Bureau applied proportionality during the damages period based on then-extant data and the cost allocation studies and policies in effect at the time.

Mr. Taylor's Response to Point 2: A retroactive application of the Final CVP Cost Allocation is required to implement a consistent definition of repayment of the CVP over the damages period pursuant to CVPIA Section 3407(d). In fact, until the final cost allocation was completed, an approved definition of CVP repayment was not available to use for the purpose of calculating proportionality under CVPIA. Utilizing a consistent definition of CVP repayment over time is critical particularly when time-series data are

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used so that data in any given year are comparable to data across other years in the dataset. As such, it would not be fair or equitable to utilize different interpretations of CVP repayment over time in calculating proportionality as suggested by the plaintiff.

Background & Additional Discussion

Mr. Wright has presented a perspective of how proportionality should be calculated without consideration of the underlying cost allocations that are used in his proposed calculation of damages in this case. Allocations based on changing conditions result in transition over time, a concept significantly different from an audited financial statement that is set in perpetuity and certified accurate. CVPIA true-up activities started in advance of the completion of the Final Cost Allocation due in part to work stoppages directed from Washington and complexities not anticipated by those preparing the effort. Reclamation worked to provide defensible predictions for a complicated process that was clearly not resolved. Adjustments to preliminary estimates of CVPIA proportionality based on interim cost allocations of the CVP must be expected, particularly by active participants such as NCPA, of the nearly ten-year development period for the CVP Final Cost Allocation. To suggest that “no post hoc adjustments are appropriate” clearly indicates a lack of understanding of the situation where development and adjustment by Reclamation to participants concerns, such as the plaintiffs collectively referred to by Mr. Wright as NCPA, continued to the very conclusion of the CVP Final Cost Allocation process. NCPA’s letter of September 20, 2019 shared that “We appreciate your efforts to address all stakeholders’ primary concerns” and “NCPA supports your actions to make corrections to the cost allocation study” clearly recognizing that changes and corrections continued to take place well after most testimony in this matter. Updates and adjustments are not ad hoc nor are they implemented to serve any purpose other than create a fair and equitable environment for future calculations of proportionality and support activities such as calculation of damages.

History of CVP Cost Allocations

Reclamation prepared its own report in 1946 on the allocation of costs and financial feasibility of the CVP. This cost allocation was completed using an average of the Alternative Justifiable Expenditure (AJE) and use of facilities approaches. This is the initial allocation of the CVP by methods that no longer would be acceptable to Reclamation or those that are charged with recovery of costs. Subsequent development resulted in the United States Corps of Engineers (USACE), Federal Power Commission and Department of Interior announcing in 1956 that the Separable Costs Remaining Benefits (SCRB) approach would be consistently employed for cost allocations. Reclamation updated the CVP cost allocation in 1956 based on the SCRB approach. Beginning in 1956 annual adjustments to the cost allocation were made based on adjustments to project costs. Updates to hydrologic data, USACE updates to flood control and navigation benefits and Reclamation updates to water supply and power accomplishments resulted in an updated SCRB cost allocation in 1960 for the CVP. The addition of the San Luis Division resulted in a separate cost allocation for that unit. At that time, there was sufficient need to unify and update the CVP cost allocation and a unified (predicated on combining bases – San Luis is Base 2) CVP cost allocation was completed in 1970. In 1975 a “short form” reallocation was completed based on updates

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principally to power from the 1970 allocation. All of cost allocations prepared through this timeframe are considered “interim” allocations.

Title I of P.L. 99-546 (October 27, 1986) directed the Secretary undertake a “final” cost allocation study of the CVP and to implement such allocations no later than January 1, 1988. Reclamation undertook unsuccessful efforts in 1988, 1995, 2001 to fulfill Congress’s direction. In 1992 GAO issued a report indicating that the CVP cost allocation was overdue and that a new method was needed. The project continued to evolve after 1975 with new additions and the passage of the Central Valley Project Improvement Act. Ultimately, in October 2010 an effort commenced that resulted in the January 2020 approved CVP Final Cost Allocation.

Between 1975 (completion of the short form reallocation) and 2020 (passage of the final CVP allocation), annual updates to the cost allocations were prepared to reflect new costs and actual project accomplishments (as measured by water deliveries and power generation) in an effort to “true-up” the cost allocation. These annual cost allocation updates were used for recovery of project costs through water and power rates. The annual interim cost allocation serves as an estimate for recovery of construction costs of the CVP. Until the Final CVP Cost Allocation was completed, the allocation of annual construction costs was simply an estimate based on the most recently available cost allocation and any annual adjustments to the CVP. Change was always pending with expectations for resolution in 1988, 1995 and 2001, only to result in assured uncertainty until the Final Cost Allocation was completed. While change was likely, and the impacts of that change were speculative at best, reliance on an interim cost allocation that would ultimately not be perpetuated became the norm.

Completing the CVP Final Cost Allocation was a process that was undertaken in an extremely transparent manner. Beginning with the kickoff meeting in October of 2010 through December of 2019, there were many public meetings and multiple public comment periods in which NCPA frequently provided comments. The nature of the CVP cost allocation resulted in significant interest from water users, hydropower customers, and other interested parties, notably environmental interest groups. Public meetings focused on the process and then refocused on issues that were raised from participants. Where Reclamation could comply with requests made by participants, changes were incorporated. An excellent example was the use of a two-period two-cost allocation approach which was primarily at the request of power users. Where Reclamation was limited by procedures, policy or regulation, some changes were discussed but not made. An excellent example of a request not being accepted would be the request to treat CVPIA restoration fund revenues as a separable cost to water and power users. CVPIA revenues are, without question, not a separable cost of the CVP in any way and to treat them as a separable cost would demonstrate incompetence on behalf of the government. Ultimately water and power users agreed that the CVP Final Cost Allocation was acceptable (NCPA in September 2019), even if many interested parties noted that there was something they would have preferred to change for their benefit.

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Dependence of CVPIA on the CVP Final Cost Allocation

With the passage of CVPIA, issues regarding how receipts for CVPIA projects would be acquired and how CVPIA costs would be allocated for recovery commenced. Congress clearly set a CVPIA Restoration Fund Charge for water contractors that would be indexed annually. Congress indicated that power receipts would be contingent on water receipts and adjusted for proportionality. Proportionality relies on the CVP cost allocation to be computed. Reclamation focused on receipts into CVPIA in the Revised Interim Guidelines: Restoration Fund Payments and Charges in 1993 with some updates and revisions in the 2003 Business Practice Guidelines for CVPIA Program Accounting and Cost Recovery (collectively, BPG). Ultimately, proportionality was further clarified through the courts. Proportionality remained dependent on the CVP cost allocation to define CVP repayment.

CVPIA in most places defines a cost recovery or allocation process for each of the different activities. Where the Act allocates costs to water and power collectively, it doesn't define any further sub-allocation for cost recovery. Where the Act is silent, a determination needs to be made for the purpose of cost recovery. The initial focus of the BPGs dealt with the receipt side of the CVPIA and simply deferred recovery through silence. In 2003, the BPGs deferred decisions on cost recovery (allocation). An effort in 2020 developed recommended practices for cost recovery, but they have been withdrawn during the administration transition period.

Reading the 1993 BPGs provides some insight into the future due to the changing environment of CVP cost allocations. When they were written, in the preceding interim CVP cost allocation (1975 short form reallocation) distribution and drainage service facilities constructed for or financed by the United States for the exclusive use of individual Water Contractors were included as part of the CVP investment supporting the water supply purpose. By 1993, it had become clear that these assets of the United States solely serve the individual water contractor and that other individual water contractors had similar assets that were not constructed or financed by the United States. Therefore, the 1993 BPGs directed that water distribution systems and drainage facilities be excluded from consideration in the repayment of the project. Formal exclusion from the CVP cost allocation did not take place until approval and implementation of the CVP Final Cost Allocation in 2020.

During the period between passage of the CVPIA in 1992 and completion of the CVP Final Cost Allocation in 2020, it was extremely difficult to respond to questions on how costs would ultimately be allocated for recovery in the CVP and hence CVPIA proportionality. For most inquiries, the likely action was simply to perpetuate current practice until the final cost allocation was completed. To do otherwise would require the subjective assessment of whether something would stay the same or not, and if not how it would change, and then to incorporate any changes. This resulted in a general practice to perpetuate the current thinking even when there were strong indications of pending change.

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An excellent example deals with how the aforementioned water distribution and drainage service facilities were handled. By 1993, it was sufficiently clear to those allocating costs for repayment in the CVP that these facilities were not appropriate in computing the repayment proportions used by CVPIA. However, it was not until 2020 that this change was approved and implemented for both the CVP and CVPIA. As such, when Reclamation responded to requests for data on CVP proportionality, as recently as 2016 from this Court, the response was predicated on the then current cost allocation and not the recommendation from 1993 BPGs. Once Reclamation had implemented the approved Final Cost Allocation in 2020, new documents were prepared for the Court reflecting the changes. The change in how distribution and drainage systems facility costs is but one of several changes ultimately approved and implemented by the CVP Final Cost Allocation and outlined in a document that has been produced during the damages phase of discovery, bearing Bates No. GOV00000958-59.

When/How to Implement Changes in Cost Allocations

Reclamation requires that an initial allocation is made during plan formulation to provide a preliminary estimate of the financial feasibility of individual project elements and the project as a whole (PEC 01-02). The initial allocation remains in effect until the final cost allocation, unless an interim cost allocation is performed. For projects constructed over a longer period of time, or which are placed into service in stages, interim cost allocations are often performed to address major changes in the project plan which have an impact on allocation of costs (PEC 01-02). When construction of the project is determined to be substantially complete, a final cost allocation is required. This final allocation, therefore, determines actual reimbursable and nonreimbursable costs and is the basis for assignment of costs to beneficiaries for repayment (PEC 01-02). In the CVP, the initial allocation was performed in 1946, followed by interim allocations in 1960, 1970, and 1975, culminating in the final cost allocation in 2020.

Cost allocated by the initial allocation are adjusted by interim allocations until the final cost allocation determines actual allocations for recovery. Contractors seeking to repay their contracts early though prepayment provisions have a clause in their contracts permitting a true-up once the final allocation is completed. Contractors in the CVP, whether water or power contractors, have this provision in their contracts and are intimately aware of this provision through the lengthy public process used for conducting and implementing the final cost allocation.

CVPIA, based on the provisions and conditions of the CVP, has a similar relationship to the CVP Final Cost Allocation where annual updates to the ECO report reflect new and updated conditions. Contractors repaying their CVP recovery obligations cannot pick the cost allocation (1946, 1960, 1970, 1975 or 2020) that provides them with the most favorable repayment obligations. Similarly, CVPIA cost allocations will continue to be updated to the 2020 CVP Final Cost Allocation to determine their actual allocated costs. The CVP Final Cost Allocation is the instrument that is intended for final cost allocations in the CVP, and allocation or assignments based on the CVP Final Cost Allocation. Sub-allocation among water supply purposes continues to be updated annually based on long-term delivery proportions among irrigators, M&I contractors,

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refuge and B2 deliveries. Similarly, power allocations are sub-allocated on the proportion of project use and commercial power over time. Sub-allocation adjustments should not be confused with initial, interim, and final cost allocation updates as they do not impact the allocation to the project purposes, only the suballocation to the ultimate end user.

Relationship Between CVP and CVPIA

The CVP was developed over a significant period of time and authorized by a myriad of authorities beginning in 1935 with PL 74-409 for the construction of Shasta Dam and more recently (1972) with PL 90-72 authorizing the San Felipe Unit. The central theme with the addition of each unit or facility is that of operational and financial integration. This concept is prevailing, but consideration for uniqueness exists. For example, the San Luis Unit is principally a water supply facility with costs, other than some negotiated recreation and fish and wildlife costs, all assigned to water supply. San Felipe Unit is integrated into the CVP for delivery of water, but the operation and repayment of that unit is separated and costs recovered solely from the two beneficiaries.

CVPIA was an additional restoration program added to help implement mitigation activities that the piecemeal development of the CVP omitted. The program identified an overall goal to increase fish population and a multitude of separate and distinct activities associated with that goal. Congress recognized that some activities should be recovered from all project beneficiaries and some should be recovered from a much smaller group such as the federal and state taxpayers. CVPIA is tied the CVP in that revenues into the Restoration Fund are to be proportional to the repayment of the CVP. Similarly, cost recovery processes from water and power were not designated, so Reclamation relied on existing CVP allocation processes. Much of the interpretation of CVPIA lies in the BPGs where implementation of the revenue proportionality is defined, and specific allocation of costs have been proposed and await approval.

Implementing CVPIA actions and activities began significantly prior to defining the processes for CVPIA cost recovery. Collection of CVPIA revenues began almost immediately while expenditures on actions and activities took time to be initiated. Using program-wide measurements of CVPIA revenues and CVPIA expenditures, with adjustment for federal and state taxpayer contributions, there was little concern that revenues outpaced expenditures until after the CVP Final Cost Allocation process commenced. Reclamation's practice for allocating CVPIA costs has been to maintain close linkages and adherence to existing cost allocation procedures, even when selective individuals working most closely with the cost allocation started to feel the need for adjustments based on likely changes from the final cost allocation. Implementation of the CVP Final Cost Allocation developed the framework for change, which was applied to CVPIA processes. For the first time, Reclamation could provide coordinated guidance between CVP and CVPIA with respect to proportionality and cost allocation in accordance with the Final CVP Cost Allocation in 2020.

The nature of the CVP cost allocation process is that changes occur annually. This is the rational for a "ten-year rolling average as water and power customers' respective

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allocations of responsibility to repay CVP costs” rather than a constant calculation in determination of proportionality. It is also important to recognize that the ten-year average is of the respective allocations of responsibility to repay and not the actual repayment amount. The focus is on the proportion and not total repayment. To maintain the focus on the proportion, the basis for repayment needs to be held constant, not the dollar amount, but rather what constitutes the CVP and repayment thereof. Distribution and drainage service facilities financed by Reclamation were considered part of the CVP in previous allocations, but as early as 1993 this designation was determined to be errant and corrected in the CVP Final Cost Allocation, and therefore these facilities need to be removed from proportionality calculations.

The damages computed by Reclamation acknowledge that change occurs annually. A constant definition of the CVP was maintained for the computation of proportionality. Prior to 2019, the former cost allocation (1975 short form reallocation) was used to estimate the 10-year rolling average. Any estimation of proportionality should reflect the facts and circumstances that existed at the time when the charges were levied. Adjustments are appropriate because damages should reflect the charges that plaintiffs would have paid had the Bureau applied proportionality during the damages period based on then-extant allocation and with CVP Final Cost Allocation assumptions and policies. The definition of what is the CVP repayment has changed by the CVP Final Cost Allocation and adjustments need to be made to reflect a constant basis for proportionality. Reclamation’s damages calculations retain the proportions in place annually but update to a consistent base the definition of the CVP; to do otherwise, would be errant.

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September 13, 2021

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER
AGENCY, *et al.*,

Plaintiffs,

v.

THE UNITED STATES,

Defendant.

No. 14-817C
(Judge Tapp)

DEFENDANT'S RESPONSES TO
PLAINTIFF'S THIRD SET OF INTERROGATORIES

Pursuant to Rule 33 of the Rules of the United States Court of Federal Claims (RCFC),
defendant, the United States, serves its responses to the third set of interrogatories served by
plaintiffs.

THIRD SET OF INTERROGATORIES

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

INTERROGATORY NO. 18

For each of the fiscal years from fiscal year 2008 through the present, identify and describe in detail the manner in which You contend that the mitigation and restoration payment obligation should have been calculated and assessed against CVP Water and Power Users under CVPIA § 3407(d)(2), had the payment obligation been calculated in accordance with the Federal Circuit's opinion in *NCPA v. United States*. Provide the complete basis for Your calculation, including all underlying assumptions, computations, the data sources relied upon, and supporting legal bases.

RESPONSE:

FY2008: CVP Water Users charges for mitigation and restoration should have been set at \$8.79 for irrigation water and \$17.57 for M&I water sold and delivered. In order to escalate the \$6.00 and \$12.00 to FY2008 price levels, the index factor used was 1.4646. The FY2008 power payment should have been set at \$16,258,690. That calculation is as follows: (FY2006 Water CVP Restoration Fund receipts/FY1997 – FY2006 Water's CVP %) * FY1997 – FY2006 Power's CVP %. $(\$41,383,294/71.79\%)*28.21\%=\$16,258,690$.

FY2009: CVP Water Users charges for mitigation and restoration should have been set at \$9.06 for irrigation water & \$18.12 for M&I water sold and delivered. In order to escalate the \$6.00 and \$12.00 to FY2009 price levels, the index factor used was 1.5102. The FY2009 power payment should have been set at \$13,503,198. That calculation is as follows: (FY2007 Water CVP Restoration Fund receipts/FY1998 – FY2007 Water's CVP %) * FY1998 – FY2007 Power's CVP %. $(\$34,715,244/72.00\%)*28.00\%=\$13,503,198$.

FY2010: CVP Water Users charges for mitigation and restoration should have been set at \$9.11 for irrigation water & \$18.23 for M&I water sold and delivered. In order to escalate the \$6.00 and \$12.00 to FY2010 price levels, the index factor used was 1.5189. The FY2010 power payment should have been set at \$10,142,430. That calculation is as follows: (FY2008 Water CVP Restoration Fund receipts/FY1999 – FY2008 Water’s CVP %) * FY1999 – FY2008 Power’s CVP %.

$$(\$25,915,511/71.87\%)*28.13\%=\$10,142,430.$$

FY2011: CVP Water Users charges for mitigation and restoration should have been set at \$9.29 for irrigation water & \$18.59 for M&I water sold and delivered. In order to escalate the \$6.00 and \$12.00 to FY2011 price levels, the index factor used was 1.5489. The FY2011 power payment should have been set at \$9,881,489. That calculation is as follows: (FY2009 Water CVP Restoration Fund receipts/FY2000 – FY2009 Water’s CVP %) * FY2000 – FY2009 Power’s CVP %.

$$(\$24,880,735/71.57\%)*28.43\%=\$9,881,489$$

FY2012: CVP Water Users charges for mitigation and restoration should have been set at \$9.39 for irrigation water & \$18.78 for M&I water sold and delivered. In order to escalate the \$6.00 and \$12.00 to FY2012 price levels, the index factor used was 1.5651. The FY2012 power payment should have been set at \$15,134,938. That calculation is as follows: ((FY2010 Water CVP Restoration Fund receipts + FY2010 Friant Surcharge)/FY2001 – FY2010 Water’s CVP %) * FY2001 – FY2010 Power’s CVP %.

$$(\$37,287,203/71.13\%)*28.87\%=\$15,134,938.$$

FY2013: CVP Water Users charges for mitigation and restoration should have been set at \$9.79 for irrigation water & \$19.58 for M&I water sold and delivered. In order to escalate the \$6.00

and \$12.00 to FY2013 price levels, the index factor used was 1.6321. The FY2013 power payment should have been set at \$16,018,394. That calculation is as follows: ((FY2011 Water CVP Restoration Fund receipts + FY2011 Friant Surcharge)/FY2002 – FY2011 Water’s CVP %) * FY2002 – FY2011 Power’s CVP %. $(\$38,236,410/70.45\%)*29.52\%=\$16,018,394$.

FY2014: CVP Water Users charges for mitigation and restoration should have been set at \$9.99 for irrigation water & \$19.98 for M&I water sold and delivered. In order to escalate the \$6.00 and \$12.00 to FY2014 price levels, the index factor used was 1.6652. The FY2014 power payment should have been set at \$16,723,209. That calculation is as follows: ((FY2012 Water CVP Restoration Fund receipts + FY2012 Friant Surcharge)/FY2003 – FY2012 Water’s CVP %) * FY2003 – FY2012 Power’s CVP %. $(\$38,638,206/69.79\%)*30.21\%=\$16,723,209$.

FY2015: CVP Water Users charges for mitigation and restoration should have been set at \$10.07 for irrigation water & \$20.14 for M&I water sold and delivered. In order to escalate the \$6.00 and \$12.00 to FY2015 price levels, the index factor used was 1.6787. The FY2015 power payment should have been set at \$11,705,565. That calculation is as follows: ((FY2013 Water CVP Restoration Fund receipts + FY2013 Friant Surcharge)/FY2004 – FY2013 Water’s CVP %) * FY2004 – FY2013 Power’s CVP %. $(\$36,272,139/69.18\%)*30.82\%=\$11,705,545$.

FY2016: CVP Water Users charges for mitigation and restoration should have been set at \$10.21 for irrigation water & \$20.41 for M&I water sold and delivered. In order to escalate the \$6.00 and \$12.00 to FY2016 price levels, the index factor used was 1.7008. The FY2016 power payment should have been set at \$5,494,851. That calculation is as follows: ((FY2014 Water CVP Restoration Fund receipts + FY2014 Friant Surcharge)/FY2005 – FY2014 Water’s CVP %) * FY2005 – FY2014

Power's CVP %. $(\$11,954,551/68.51\%)*31.49\%=\$5,494,851$.

FY2017: CVP Water Users charges for mitigation and restoration should have been set at \$10.23 for irrigation water & \$20.45 for M&I water sold and delivered. In order to escalate the \$6.00 and \$12.00 to FY2017 price levels, the index factor used was 1.7045. The FY2017 power payment should have been set at \$3,646,993. That calculation is as follows: $((\text{FY2015 Water CVP Restoration Fund receipts} + \text{FY2015 Friant Surcharge})/\text{FY2006} - \text{FY2015 Water's CVP \%}) * \text{FY2006} - \text{FY2015 Power's CVP \%}$. $(\$7,701,357/67.86\%)*32.14\%=\$3,646,993$.

FY2018: CVP Water Users charges for mitigation and restoration should have been set at \$10.47 for irrigation water & \$20.94 for M&I water sold and delivered. In order to escalate the \$6.00 and \$12.00 to FY2018 price levels, the index factor used was 1.7453. The FY2018 power payment should have been set at \$9,531,047. That calculation is as follows: $((\text{FY2016 Water CVP Restoration Fund receipts} + \text{FY2016 Friant Surcharge})/\text{FY2007} - \text{FY2016 Water's CVP \%}) * \text{FY2007} - \text{FY2016 Power's CVP \%}$. $(\$19,596,493/67.28\%)*32.72\%=\$9,531,047$.

FY2019: CVP Water Users charges for mitigation and restoration should have been set at \$10.63 for irrigation water & \$21.26 for M&I water sold and delivered. In order to escalate the \$6.00 and \$12.00 to FY2019 price levels, the index factor used was 1.7717. The FY2019 power payment should have been set at \$16,799,921. That calculation is as follows: $((\text{FY2017 Water CVP Restoration Fund receipts} + \text{FY2017 Friant Surcharge})/\text{FY2008} - \text{FY2017 Water's CVP \%}) * \text{FY2008} - \text{FY2017 Power's CVP \%}$. $(\$33,672,013/66.71\%)*33.29\%=\$16,799,921$.

FY2020: CVP Water Users charges for mitigation and restoration should have been set at

\$10.91 for irrigation water & \$21.82 for M&I water sold and delivered. In order to escalate the \$6.00 and \$12.00 to FY2020 price levels, the index factor used was 1.8183. The FY2020 power payment should have been set at \$22,748,857. That calculation is as follows: $((\text{FY2018 Water CVP Restoration Fund receipts} + \text{FY2018 Friant Surcharge}) / \text{FY2009} - \text{FY2018 Water's CVP \%}) * \text{FY2009} - \text{FY2018 Power's CVP \%}$. $(\$44,743,673 / 66.29\%) * 33.71\% = \$22,748,857$.

FY2021: CVP Water Users charges for mitigation and restoration should have been set at \$11.11 for irrigation water & \$22.23 for M&I water sold and delivered. In order to escalate the \$6.00 and \$12.00 to FY2021 price levels, the index factor used was 1.8596. The FY2021 power payment should have been set at \$23,279,600. That calculation is as follows: $((\text{FY2019 Water CVP Restoration Fund receipts} + \text{FY2019 Friant Surcharge}) / \text{FY2010} - \text{FY2019 Water's CVP \%}) * \text{FY2010} - \text{FY2019 Power's CVP \%}$. $(\$44,957,672 / 65.88\%) * 34.12\% = \$23,279,600$.

The mitigation and restoration payments from CVP water users consists of initially setting the mitigation and restoration payments at \$6.00 and \$12.00 (October 1992 price levels) per acre-foot for irrigation and M&I water, respectively, sold and delivered. Unless, prior to the start of the fiscal year, the mitigation and restoration payments from water users would cause the fund to exceed the \$30 million (October 1992 price levels) per year over the three year period. If that is the case, the \$6.00 and \$12.00 (October 1992 price levels) per acre-foot for irrigation water and M&I water, respectively, shall be lowered to ensure that the \$90 million (October 1992 price levels) total will not be exceeded in the following year. Any such reduction shall maintain the relative ratio of payment between irrigation water and M&I water.

The calculation for determining the mitigation and restoration payments from power is as

follows: $((\text{Water CVP Restoration Fund receipts} + \text{Friant Surcharge}) / \text{Water's CVP \%}) * \text{Power's CVP \%}$. Water CVP Restoration Fund receipts use actual cash collections from two years prior and consist of pre-renewal payments, tiered water payments, water transfer payments, M&I surcharge payments and water's mitigation and restoration payments. Water's CVP % means the ten year rolling average percentage for repayment of the CVP as identified in the cost allocation study which is assigned to the water supply function. Power's CVP % means the ten year rolling average percentage for repayment of the CVP as identified in the cost allocation study which is assigned to the commercial power function.

A document entitled: "Damages Calculation_3/1/2021," which we will produce in connection with our response to document request no. 1, provides further details, including input values, regarding this calculation.

INTERROGATORY NO. 19

For each year of Your calculation of the mitigation and restoration payments at issue here, state the dollar amounts and percentages that You contend represent CVP Water Users' and CVP Power Users' "respective allocations for repayment of the Central Valley Project," CVPIA § 3407(d)(2), on a 10-year rolling average basis (see Joint Trial Exhibit 2). Provide the basis for these proportionalities in full, including all underlying assumptions, computations, the data relied upon, and supporting legal bases.

RESPONSE:

We will produce a document entitled: "SUMMARY_CVPIA Croffset Alloc Scenarios - _FY95-FY19_R (FINAL)_Litigation," which is responsive to plaintiff's document request no. 21, that provides the dollar amounts and the percentages of CVP Water Users and CVP Power Users respective allocations for repayment of the Central Valley Project.

A fundamental premise of our calculation of proportionality under the CVPIA methodology is that payments into the Restoration Fund will be distributed in accordance with the CVP plant-in-service (construction) allocation. Specifically, section 3407(d)(2)(A) of the CVPIA states:

The amount of the mitigation and restoration payment made by Central Valley Project water and power users, taking into account all funds collected under this title, shall, to the greatest degree practicable, be assessed in the same proportion, measured over a ten-year rolling average, as water and power users' respective allocations for repayment of the Central Valley Project.

In this context, CVP Water users are irrigation and M&I water contractors, and CVP Power users are commercial power contractor who are served by the Western Area Power Administration (WAPA).

The repayment obligations of CVP Water and Power users are derived from the annual CVP plant-in-service cost allocation. Repayment obligations do not reflect the allocation of routine operation and maintenance (O&M) costs.

Our calculation of the CVPIA proportionality percentages, which is based upon a determination of the CVP plant-in-service allocation (and resultant repayment obligations), rests upon multiple assumptions regarding which costs are included or excluded from the calculations.

- The CVPIA proportionality percentages are based on costs allocated in the Final CVP Cost Allocation Study (CAS), specifically the costs that are allocated to the authorized purposes of the CVP as part of the Separable Cost-Remaining Benefit (SCRB) cost allocation methodology.
- The CVPIA proportionality percentages further reflect the sub-allocation of water supply and power costs that account for most of the repayment obligations assigned to irrigation, M&I, and commercial power.
- The CVPIA proportionality percentages exclude direct assigned and certain other costs that are not part of the SCRB process.
- We will produce a document entitled: “CVPIA TrueUp_Alloc Assumptions_ FINAL_ Litigation,” which is responsive to document request no. 21, that identifies the costs that were either included or excluded regarding our proportionality calculations.

There are several key CAS assumptions used for CVPIA proportionality that are different than what was used historically (prior to finalizing the CAS):

- Water distribution systems, including San Felipe Unit costs that are covered under repayment contracts, are excluded from the CVPIA proportionality percentages. We will produce a document entitled: “2020-10-5 Distribution System Paper_clean 10-6-

20,” which his responsive to document request no. 21, that discusses the rationale for the exclusion of these costs.

- o Interest during Construction (IDC) are excluded from the CVPIA proportionality percentages, although IDC is still part of CVP repayment. The rationale for excluding these costs is to ensure equitable treatment of IDC costs among the three reimbursable functions of the project.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

INTERROGATORY NO. 21

Identify each instance in which You retroactively revised, rebilled, credited, surcharged, or otherwise adjusted the CVP repayment amount previously paid by a CVP Water User or CVP Power User. For each instance, specify the date of the original charge and any retroactive adjustments, identify the CVP Water User or Power User involved, describe the underlying facts and circumstances, and identify the accounting records that support Your answer.

RESPONSE:

Water contractor repayment is only adjusted when an error occurs. The agency makes adjustments based on reconciliations only when an error in repayment has been identified. Reconciliations take place on an ongoing basis. Power contractor repayment is performed by WAPA. The sole purpose of an adjustment is to demonstrate errors in entering and accounting for how payments are credited.

INTERROGATORY NO. 23

State whether You intend to revise, rebill, credit, surcharge, or otherwise adjust past M&R charges to, and associated revenue collections from, CVP Water Users and CVP Power Users other than Plaintiffs to accord with the Federal Circuit's opinion in *NCPA v. United States*.

Identify the applicable time period(s) for such treatment and provide the supporting legal bases for doing so.

RESPONSE:

Reclamation does not intend to revise, rebill, credit, surcharge or otherwise adjust past M&R charges from other CVP Water Users and CVP Power Users.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

AS TO RESPONSES:

SPENCER
WALDEN

Digitally signed by
SPENCER WALDEN
Date: 2021.04.05 18:34:16
-07'00'

Spencer Walden

Dated: April 5, 2021

BRIAN M. BOYNTON
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MARTIN F. HOCKEY, JR.
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Attorneys for Defendant

April 5, 2021

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

**NORTHERN CALIFORNIA POWER
AGENCY, *et al.*,**

Plaintiffs,

V.

THE UNITED STATES,

Defendant.

No. 14-817C
(Judge Tapp)

**DEFENDANT'S RESPONSES TO
PLAINTIFFS' FIFTH SET OF INTERROGATORIES**

Pursuant to Rule 33 of the Rules of the United States Court of Federal Claims (RCFC), defendant, the United States, serves its responses to the fifth set of interrogatories served by plaintiffs.

FIFTH SET OF INTERROGATORIES

INTERROGATORY NO. 26

Please explain in detail your understanding of how the dollar amounts and percentages shown in the “Capital Costs” chart at the bottom of Joint Exhibit 2 were developed. In addition to your narrative response explaining how the numbers were developed, please illustrate by using a single ten-year period as an example and show how the ten-year sums and constituent single-year dollar amounts were derived, including any formulas or calculations. For each dollar amount provided in your answer, please identify the relevant data source(s) and, if the document has been produced in discovery, specify the Bates number.

RESPONSE:

** For each 10-year period listed in JX2, the capital costs shown is the sum of allocated capital costs over the preceding 10 years for Irrigation, M&I and Commercial Power, respectively. For example, for FY 2006-2015, the sum of allocated capital cost over that 10-year period for Commercial Power was \$6,896,223,528. Separate calculations were performed for Irrigation, M&I, and Commercial Power.

** The 10-year rolling average percentage for each period listed JX 2 is the proportion of total reimbursable costs over that 10-year period for Irrigation, M&I and Commercial Power. For example, for FY- 2006-2015, the total allocated costs are as follows: Irrigation (\$15,632,829,707), M&I (\$3,989,156,865), and Commercial Power (\$6,896,223,528); the total across those three reimbursable functions is \$26,518,210,100 (\$15,632,829,707 + \$3,989,156,865 + \$6,896,223,528). Therefore, the 10-year rolling average percentage for Irrigation is 58.951 % ($\$15,635,829,707 / \$26,518,210,000$); M&I is 15.043% ($\$3,989,156,865 / \$26,518,210,000$); and Commercial Power is 26.006% ($\$5,896,223,528 / \$26,518,210,000$).

** The allocated costs to Irrigation, M&I, and Commercial Power in any one single year is derived from the CVP annual plant-in-service allocation; these annual values are not shown in JX 2. The annual plant-in-service allocation in any given year allocates all capital costs across the authorized purposes of the CVP and further sub-allocates water supply and power costs in order to assign costs for repayment by Irrigation, M&I, and Commercial Power. Those annual values are presented in Worksheet W of the annual CVP plant-in-service allocation.¹ The annual plant-in-service allocations through FY-2016 are based on the cost allocation factors developed in the 1970 Interim CVP Cost Allocation (as updated in 1975), and the costs allocated to the water supply and

¹ See GOV0004130-GOV0004153.

power purpose are sub-allocated using both actual and projected water deliveries and power generation at the time the plant-in-service allocation was completed.

The illustration of the single ten-year period was provided in response to Request for Production 4-3; the native file name for this document is titled “Weighted Ave. Repayment Obligation 1993-2016.”²

Fiscal Year	Irrigation		M&I		Power		Total Water and Power	
2006	1,503,377,365		400,157,731		566,898,180		2,470,433,276	
2007	1,498,744,890		399,480,303		566,895,154		2,465,120,347	
2008	1,518,025,403		398,903,367		614,264,980		2,531,193,750	
2009	1,518,670,376		401,173,663		615,577,962		2,535,422,000	
2010	1,534,677,644		397,772,849		645,994,076		2,578,444,570	
2011	1,556,112,669		401,583,286		720,686,230		2,678,382,184	
2012	1,567,859,127		384,684,618		732,561,382		2,685,105,128	
2013	1,640,745,283		403,305,418		788,445,515		2,832,496,216	
2014	1,641,313,826		402,627,708		814,873,601		2,858,815,135	
2015	1,653,303,125		399,467,923		830,026,447		2,882,797,495	
2006-2015	15,632,829,707	58.951%	3,989,156,865	15.043%	6,896,223,528	25.006%	26,518,210,000	100%

² See GOV0001098.

INTERROGATORY NO. 27

Please refer to the document entitled “CVPIA True-Up—Cost Allocation Assumptions,” GOV0000958-959. For each category of costs listed there, please state your understanding of whether such costs were included in or excluded from the allocations to Irrigation, M&I Water, or Commercial Power shown in Joint Exhibit 2 and the defendant’s response to plaintiffs’ interrogatory 25.

RESPONSE:

Based on our understanding of the CVP allocation process, we provide the following response regarding whether the costs identified in GOV0000958-59 were included or excluded from the allocations to Irrigation, M&I Water, or Commercial Power shown in JX 2 and our response to interrogatory 25:

We indicate in bold below whether Reclamation, in developing JX 2, included or excluded the referenced costs from the CVPIA proportionality calculation. After further analysis, Reclamation currently takes a different position with respect to whether certain of those costs should be included or excluded from the proportionality calculation. The highlighted text below represents instances in which there is a discrepancy between JX 2’s inclusion or exclusion of certain costs and Reclamation’s current position regarding whether those costs should be included or excluded from the proportionality calculation.

“Include” = included in the costs used to calculate CVPIA proportionality

“Exclude” = excluded in the costs used to calculate CVPIA proportionality

• Costs allocated only to the seven authorized purposes of the CVP in the Separable Cost-Remaining Benefits (SCRB) used in the Final Cost Allocation Study (CAS): **NOT APPLICABLE**

• Fish & Wildlife Enhancement costs: **EXCLUDED**

• Fish and wildlife “mitigation” costs: **INCLUDE**

- Wildlife Refuge – Reimbursable Level 2 costs: **INCLUDE**
- Wildlife Refuge – Reimbursable B2 (Period 2 only; new cost): **INCLUDE**
- Wildlife Refuge – Nonreimbursable Level 1 costs (Period 1 only): **EXCLUDE**
- Wildlife Refuge – Nonreimbursable Incremental Level 4 costs: **EXCLUDE**
- Pacific NW-Pacific SW Intertie (PACI) owned by WAPA: **EXCLUDE**
- Water distribution systems (repayment contracts): **INCLUDE**
- San Felipe Unit costs: **INCLUDE**
- California-Oregon Transmission Project (COTP) owned by WAPA: **EXCLUDE**
- Repayment obligations -- USACE (included in water rates): **INCLUDE**
- WAPA retired assets (included in water rates): **INCLUDE**
- Recreation – State/Local: **EXCLUDE**
- Recreation (Los Banos): **INCLUDE**
- Flood Control (Los Banos): **INCLUDE**
- Direct Assign – Reimbursable fish and wildlife mitigation costs: **EXCLUDE**
- Direct Assign – Nonreimbursable fish and wildlife mitigation costs (Federal): **EXCLUDE**
- Direct Assign – Nonreimbursable fish and wildlife mitigation costs (State): **EXCLUDE**
- Direct Assign – Safety of Dams costs (85% nonreimbursable share): **EXCLUDE**
- Direct Assign – Safety of Dams costs (15% reimbursable share): **INCLUDE**
- Direct Assign – State share San Luis Unit (55% percent of total costs): **EXCLUDE**
- Direct Assign – Archaeological, Cultural, Historical: **EXCLUDE**
- Direct Assign – Nonreimbursable Fish & Wildlife (Nimbus): **EXCLUDE**
- Direct Assign – Nonreimbursable Recreation (San Felipe): **EXCLUDE**
- Direct Assign – Nonreimbursable Fish & Wildlife (San Felipe): **EXCLUDE**
- Direct Assign – Highway Improvement: **EXCLUDE**
- Direct Assign – Kesterson Reservoir Cleanup: **EXCLUDE**
- Direct Assign – Capitalized IDC on irrigation at New Melones (USACE): **EXCLUDE**
- Direct Assign – Safety, Security and Law Enforcement: **EXCLUDE**
- Direct Assign – American River Pumping Station: **EXCLUDE**

- Direct Assign – San Joaquin River Restoration Program (nonreimbursable): **EXCLUDE**
- Authorized deferred use (not currently allocated): **EXCLUDE**
- Folsom Safety of Dams not in repayment (not currently allocated): **INCLUDE**
- CVPIA-authorized construction costs (not currently allocated): **INCLUDE**
- Folsom-South Canal not in repayment (2018+ only; new cost): **EXCLUDE**
- Transferred Assets (only while in plant in service): **INCLUDE**
- Interest During Construction: **INCLUDE**
- Capitalized OM&R/Replacements (after FY-13): **INCLUDE**

AS TO RESPONSES:

Spencer Walden

Dated: July 15, 2021

BRIAN M. BOYNTON
Acting Assistant Attorney General

MARTIN F. HOCKEY, JR.
Acting Director

/s/ Franklin White, Jr.
FRANKLIN E. WHITE, JR.
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/s/ P. Davis Oliver
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Attorneys for Defendant

July 15, 2021

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

**NORTHERN CALIFORNIA POWER
AGENCY, *et al.*,**

Plaintiffs,

v.

THE UNITED STATES,

Defendant.

No. 14-817C
(Judge Tapp)

**DEFENDANT'S RESPONSES TO
PLAINTIFFS' SIXTH SET OF INTERROGATORIES**

Pursuant to Rule 33 of the Rules of the United States Court of Federal Claims (RCFC), defendant, the United States, serves its responses to the sixth set of interrogatories served by plaintiffs.

SIXTH SET OF INTERROGATORIES

INTERROGATORY NO. 30

With respect to Mr. Walden's Expert Disclosure, please explain in detail whether and how Mr. Walden's damages calculation depends upon the opinions of the Government's other identified expert witnesses, Mr. Pavich and Dr. Taylor.

RESPONSE:

The damage calculation discussed in Mr. Walden's Expert Disclosure is a mathematical calculation. The inputs of the calculation are in part dependent on the results of Mr. Pavich and Dr. Taylor's work and in part known historic data. Some of the key data, historic power payments, historic water payments and historic power Base Resource percentages are not

dependent on other experts. Cost allocations are not performed by Reclamation accountants and therefore “the respective allocation for repayment of the CVP” component of the calculation does depend on the work of Mr. Pavich.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

AS TO RESPONSES TO INTERROGATIES 30-33:

Spencer Walden

Dated: October 25, 2021

AS TO RESPONSES TO INTERROGATORY 34:

William Taylor

Dated: October 25, 2021

BRIAN M. BOYNTON
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MARTIN F. HOCKEY, JR.
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October 25, 2021

No. 19-506
(Judge Tapp)

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER AGENCY,
et. al,

Plaintiffs,

v.

UNITED STATES,

Defendant.

DEFENDANT'S MOTION FOR SUMMARY JUDGMENT WITH APPENDIX

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December 17, 2021

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IN THE UNITED STATES COURT OF FEDERAL CLAIMS

_____)	
NORTHERN CALIFORNIA POWER AGENCY,)	
<i>et. al,</i>)	
)	
Plaintiffs,)	
)	
v.)	No. 19-506
)	(Judge Tapp)
THE UNITED STATES,)	
)	
)	
Defendant.)	
)	
_____)	

DEFENDANT’S MOTION FOR SUMMARY JUDGMENT WITH APPENDIX

Pursuant to Rule 56 of the Rules of the United States Court of Federal Claims (RCFC), defendant, the United States, respectfully requests that the Court enter summary judgment in favor of the Government regarding the amount of damages to which plaintiffs are entitled following the Federal Circuit’s determination that the U.S. Bureau of Reclamation’s assessment of Mitigation and Restoration charges was not in accordance with Section 3407(d) of the Central Valley Project Improvement Act (CVPIA), Pub. L. 102-575, 106 Stat. 4600, 4706-4731, which requires that such assessments, “to the greatest degree practicable,” be proportional to plaintiffs’ “allocations for repayment of the Central Valley Project.” Because plaintiffs’ damages calculation– in the amount of \$81,872,385 – includes costs that are not allocated for repayment of the Central Valley Project (CVP), plaintiffs’ damages claim fails as a matter of law. We respectfully request that the Court adopt our damage calculation – \$68,154,911 – which consistent with Section 3407(d) of the CVPIA, excludes costs that

are not allocated for repayment of the CVP. We rely upon the following brief and the appendix attached hereto.

PRELIMINARY STATEMENT

This case is particularly well-suited for disposal through summary judgment because uncontroverted facts establish that plaintiffs’ damages calculation improperly includes the costs of water distribution systems that do not contribute to and are not a part of the repayment of the Central Valley Project. Because the proportional assessments to which plaintiffs are entitled, under section 3407(d) of the CVPIA, are equal to their “respective allocations for repayment of the Central Valley Project,” any non-CVP repayment costs, by definition, must be excluded from the proportionality calculation. Water distribution systems – which benefit only a single contracting entity, and are not integrated financially or operationally into the CVP – are a quintessential example of a non-CVP repayment cost. Water distribution system costs are assigned directly to individual water contractors for repayment and represent infrastructure that lies outside the boundaries of the operationally integrated CVP. Accordingly, the costs of water distribution systems should be excluded from the proportionality calculation that determines the appropriate measure of damages in this litigation.

Enacted in 1992, the CVPIA established the Central Valley Project Restoration Fund (Restoration Fund) to help finance the protection and restoration of fish and wildlife negatively impacted by the operation of the CVP. To that end, the CVPIA required Reclamation to collect Mitigation and Restoration (M&R) charges – the charges at issue in this litigation – from CVP water and power contractors. Section 3407(d) provides that “[t]he amount of the mitigation and restoration payment made by Central Valley water

and power users, taking into account all funds collected under this title, shall to the greatest degree practicable, be assessed in the same proportion, measured over a ten-year rolling average, as water and power users' respective allocations for repayment of the Central Valley Project.”

The CVP is a financially and operationally integrated multipurpose water resource project operated by the U.S. Bureau of Reclamation (Reclamation) that supplies water to more than 250 water contractors in the Central Valley, the San Francisco Bay, and the Santa Clara Valley. A102.¹ The CVP has eight authorized purposes: water supply, power, flood control, water quality, recreation, navigation, fish and wildlife enhancement, and fish and wildlife mitigation. *Id.* In accordance with congressional CVP project authorization, the costs for CVP facilities are to be reimbursed by project beneficiaries. *Id.* The bedrock principle underlying CVP repayment is that projects costs that provide common benefits be equitably distributed among project beneficiaries. To that end, in 1946, the Acting Commissioner of Reclamation submitted a letter to Congress regarding the proper allocation of CVP costs, which drew a “clear distinction . . . between the central features of the project[,], which will provide common services, and the irrigation water distribution systems [that] serve a single contracting unit.” A543. Specifically, the Commissioner emphasized that “[w]hatever supplementary distribution systems for irrigation water are necessary or desirable under the requirements of the reclamation law will be the subject of individual and separate repayment contracts . . . and will have no direct relationship to the central operation, control, and financial accounting of the Central Valley Project.” *Id.* By contrast, “[t]he contractual terms under which [project]

¹ “A_” denotes a page of the appendix attached to this motion.

water is furnished will both reflect and form a part of the financial structure and operational arrangements of the central group of common features [that] provide the project supply of water (and power).” *Id.* To put an even finer point on this distinction, the Commissioner confirmed that “[t]he centralized operation of the Central Valley Project ends at the point where the water is delivered on a canal-side or river-bank,” *id.*, beyond that point, the “supplementary” water distribution systems exist outside the control and purview of Reclamation.

At bottom, water distribution systems, unlike CVP water delivery infrastructure, benefit only a single contracting entity and, accordingly, the costs of those distribution systems are born solely by those contractors, and are not allocated among project beneficiaries. In other words, water distribution system costs are not part of the repayment of the CVP.

Despite the Commissioner’s 1946 letter drawing a clear distinction between the common CVP facilities to deliver water to the canal-side or river-bank – which are subject to CVP repayment – and water distribution system costs – which fall outside the purview of the CVP, Reclamation included water distribution costs in its interim CVP cost allocation in 1970 (and subsequently updated in 1975), which was used to define interim CVP repayment obligations until 2020. In 2020, Reclamation issued a Final Cost Allocation Study (CAS) that established the final cost allocation factors for the authorized purposes of the CVP, which is used to determine repayment obligations for CVP facilities subject to the 2030 deadline for full repayment of CVP costs set by Congress. The Final CAS officially rejected the 1975’s study’s inclusion of water distribution system costs in CVP repayment, finding that water distribution systems

benefit only a single contracting entity, and not the CVP as a whole. Thus, the Final CAS concluded that water distribution systems should not be included in CVP repayment.

The Final CAS's determination to exclude water distribution systems from CVP cost allocation process is not only consistent with the Commissioner's 1946 letter to Congress but also with Reclamation's 1993 Revised Interim Guidelines interpreting its obligations under the CVPIA. The Revised Interim Guidelines state that "[t]he respective allocations for repayment of the Project shall be exclusive of any Water Contractor obligations to provide for the repayment of distribution and drainage service constructed for or financed by the United States for the exclusive use of individual Water Contractors." A63. In other words, water distribution system costs are not part of the "repayment of the CVP" for purposes of calculating the proportionality assessment under section 3407(d) of the CVPIA.

Plaintiffs will argue that they are entitled to damages that include water distribution costs in the calculation of a proportional assessment because the interim 1970/1975 cost allocation – which was in effect during the damages period – included those costs in CVP repayment. The problem with plaintiffs' argument is that the inclusion of water distribution system costs in CVP repayment was an error, as recognized by Reclamation in its 1993 Revised Interim Guidelines, and officially corrected by the agency in the Final CAS. Because the CVPIA does not authorize the inclusion of non-CVP costs in calculating the proportionality assessment, water distribution system costs, which relate only to a single contracting entity and are not shared by CVP beneficiaries, may not be included in calculating plaintiffs' damages.

STATEMENT OF THE CASE AND FACTS

I. Statement Of The Case

The liability phase of this litigation centered on the proper interpretation of an environmental remediation statute that requires the Secretary of the Interior to collect \$50 million a year from CVP water and power contractors and to assess water and power users proportionately to their allocated CVP repayment “to the greatest degree practicable.” The plaintiffs, Northern California Power Agency (NCPA), and the cities of Redding, Roseville, and Santa Clara, California, brought this lawsuit claiming that the Secretary of Interior unlawfully sought to collect \$50 million a year to fund fish and wildlife restoration projects at the expense achieving proportionality in assessments between CVP water users and power users. ECF No. 108 at 4. The trial court granted judgment in favor of the Government, finding that the CVPIA prioritized the \$50 million revenue requirement over achieving proportionality. *Id.* at 15. On appeal, the Federal Circuit reversed, finding that Reclamation’s long-standing practice of prioritizing the revenue requirement over proportionality was contrary to section 3407(d), which required the agency to assess CVP power and water users in proportion to their respective allocations of repayment of the CVP “to the greatest degree practicable.” *Northern California Power Agency et. al, v. United States*, 943 F.3d 1091, 1098-99 (Fed. Cir. 2019). The Federal Circuit remanded to this Court for a determination of damages.

II. Statement Of Facts

A. The Central Valley Project

In 1935, Congress created the CVP, which is the nation's largest Federal water management project and is one of the world's largest water storage and conveyance systems. ECF No. 108 at 2. The CVP is a network of dams, reservoirs, levees, canals, pumping stations, hydropower plants, and other infrastructure that delivers water throughout the Central Valley of California and helps make it the most agriculturally productive region in the world. *Id.* at 3. Reclamation, which operates the CVP, has entered into hundreds of long-term contracts for the delivery of CVP water to various agricultural, industrial, and commercial entities in addition to municipal water agencies. *Id.*

The CVP not only provides for the delivery of water to farms, businesses, and residents, but also, through CVP power plants, generates several billion kilowatt-hours of hydroelectric power annually. *Id.* The Department of Energy, Western Power Administration, as Reclamation's agent, sells the hydroelectric power to power customers, such as NCPA. *Id.*

Under Federal reclamation law, Reclamation delivers water from CVP facilities to users pursuant to contracts that provide for the repayment of a share of the CVP's capital construction costs, along with a share of operational and maintenance costs. *See* 43 U.S.C. § 485h(e). CVP water customers are responsible for the vast majority of the CVP repayment costs. ECF No. 108 at 3.

B. The Central Valley Project Improvement Act

Because the operation of the CVP has negatively affected the ecosystems of the Central Valley – including having a devastating effect upon California's native fish population – Congress enacted the CVPIA in 1992. *Id.* The CVPIA amended the CVP's

authorizing legislation by elevating “mitigation, protection, and restoration of fish and wildlife” to Project purposes on par with irrigation. *See* CVPIA § 3406(a)(1)-(2); *see also O’Neill v. United States*, 50 F.3d 677, 686 (9th Cir. 1995) (“CVPIA marks a shift in reclamation law modifying the priority of water uses.”).

The CVPIA directs Reclamation to conduct nearly two dozen actions to protect and restore fish and wildlife. *See* CVPIA § 3406(b). To help finance these projects, the CVPIA established the Restoration Fund, which requires Reclamation to collect \$50 million annually, in 1992 dollars, by assessing six different charges on “direct beneficiaries” of the CVP, *i.e.*, CVP water and power contractors. *See* CVPIA §§ 3407(c)(1) & (2); 3407(d)(1)(2)(A). Those charges include the annual and mitigation restoration payments (M&R payments) that are at issue in this litigation.² The M&R charge is the only charge that both CVP power users and water users pay. ECF No. 108 at 3. The non-M&R charges apply only to CVP water users. *Id.*

Section 3407(c)(2) caveats the requirement to collect \$50 million as follows: “[T]he Secretary shall impose such charges in fiscal year 1998 and in each fiscal year thereafter, *subject to the limitations in subsection (d) of this section*, as may be required to yield in fiscal year 1998 and in each fiscal year thereafter total collection equal to \$50,000,000 per year (October 1992 price levels).” (Emphasis added.)

Section 3407(d) states that “[t]he Secretary shall require Central Valley Project water and power contractors to make such additional annual payments [M&R charges]

² The other charges, which Reclamation refers to as “non-discretionary charges” are: (1) the Friant surcharge, (2) the contract pre-renewal charge, (3) the non-CVP water transfer charge, (4) the tiered water charge, and (5) the municipal and industrial water surcharge.

as are necessary to yield together with all other receipts, the amount required under paragraph (c)(2) of this subsection [*i.e.*, \$50,000,000]; *Provided*, That such additional payments shall not exceed \$30,000,000 (October 1992 price levels on a three-year rolling average basis)” Pursuant to this proviso, the Secretary’s obligation to collect \$50 million is limited by a \$30 million ceiling cap on M&R charges. In addition to this “limitation” on the \$50 million collection requirement, section 3407(d) contains four other provisos that qualify the Secretary’s funding mandate, including a “limitation” on the amount of M&R charges that CVP water contractors may be assessed.

Following the five provisos is the proportionality provision at issue, which states: “[t]he amount of the mitigation and restoration payment made by Central Valley water and power users, taking into account all funds collected under this title, shall to the greatest degree practicable, be assessed in the same proportion, measured over a ten-year rolling average, as water and power users’ respective allocations for repayment of the Central Valley Project.” *See* Section 3407(d).

C. Reclamation’s Assessment Of M&R Charges

Since the enactment of the CVPIA in 1992, Reclamation prioritized the mandate to collect \$50 million over ensuring that CVP water users and power users pay in proportion to their respective repayment allocations. ECF No. 108 at 4. In that respect, prior to the Federal Circuit’s decision, Reclamation never understood the proportionality provision to be one of the “limitations” that constrain the Secretary’s obligation to collect \$50 million. *Id.* To that end, Reclamation requested from Congress \$50 million in funding for the Restoration Fund (in 1992 dollars) each year from Fiscal Year 2008

through Fiscal Year 2018. Except for Fiscal Year 2013, when Congress passed a full-year continuing resolution, Congress has adopted Reclamation's proposed appropriation language, which directs Reclamation to "assess and collect the full amount of the additional mitigation and restoration payments as authorized by section 3407(d)." *Id.* Because the non-M&R sources of revenue failed to sufficiently materialize to allow Reclamation to meet the \$50 million target, Reclamation interpreted the directive to "collect the full amount" of M&R payments as requiring the agency to collect the maximum amount of M&R payments permitted by section 3407(d) (*i.e.*, \$30 million). *Id.*

To reach the \$30 million M&R ceiling, Reclamation charges CVP water users the maximum amount permitted by section 3407(d), which limits water payments to "\$6 per acre-foot for agricultural water sold and delivered by the Central Valley Project" and "\$12 per acre-foot for municipal and industrial water sold and delivered by the Central Valley Project." Because there is no analogous dollars per mega-watt hour cap on what CVP power customers may be charged, Reclamation assesses CVP power customers the difference between what the agency charges CVP water customers and the \$30 million M&R collection ceiling. *Id.*

Due to the statutory cap on what Reclamation may charge water customers and the statutory requirement to collect up to the \$30 million M&R ceiling, hydrology determined what CVP power customers paid, under Reclamation's methodology. When water deliveries were low, Reclamation's assessments from power customers resulted in their payments exceeding their proportion of the CVP repayment costs. Specifically, in drought years, CVP water users' M&R payments were depressed, which, in turn,

increased the CVP power customers' M&R payment obligation in order to reach the \$30 million M&R collection ceiling.

D. Plaintiffs' Illegal Exaction Lawsuit

In September 2014, plaintiffs filed suit in this Court, seeking recovery of payments that they claim were unlawfully assessed and collected by Reclamation under section 3407(d). In their illegal exaction claim, plaintiffs argue that Reclamation has ignored the proportionality provision in section 3407(d) and that, as a result, Reclamation has overcharged CVP power customers in excess of \$120 million. ECF No. 108 at 6. The Government moved to dismiss the complaint on the ground that Reclamation acted well within its statutory discretion to assess disproportionate payments and, thus, there could be no illegal exaction. *Id.* This Court held that it possessed jurisdiction to entertain NCPA's illegal exaction claim and that NCPA properly alleged such a claim. *Id.*

In January 2018, the Court conducted a trial that was limited to the issue of the Government's liability and did not address damages. *Id.* Following trial, the Court rejected NCPA's arguments and directed that the complaint be dismissed. *Id.* This Court held that section 3407(c) of the CVPIA contains a \$50 million collection target that is expressly "subject to the limitations in subsection (d)." *Id.* The Court agreed with our position that the proportionality provision in section 3407(d) is not one of the five "limitations in subsection (d)" that qualify the \$50 million collection requirement, which means the \$50 million collection requirement takes priority over the requirement to assess CVP water users and power users proportionately "to the greatest degree practicable." *Id.*

Plaintiffs appealed to the Federal Circuit, which reversed this Court's decision. The Federal Circuit held that the proportionality provision is one of the "limitations in subsection (d)" that supersedes the \$50 million collection requirement and, hence, proportionality takes precedence over the funding mandate. *Northern California Power*, 921 F.3d at 1098. The Court held that the plain meaning of the term "limitations" supports plaintiffs' argument, and stated that "[a]bsent a clear indication that Congress intended otherwise, we must conclude that the proportionality requirement is a true 'limitation' as that word is used in the statute, and as a result, that the requirement takes priority over the \$50 million collection requirement." 921 F.3d at 1098. The Federal Circuit remanded the matter for a determination of damages owed to plaintiffs. 921 F.3d at 1099.

E. The Parties' Respective Damages Calculations

The parties agree on the formula for calculating damages. A160. Damages are equal to the difference between what Reclamation assessed plaintiffs during the damages period and the proportional amount that Reclamation should have assessed under section 3407(d) of the CVPIA. *Id.* The parties agree on the amount that Reclamation assessed during the damages period. The dispute centers on what amount Reclamation amount should have assessed to satisfy the proportionality requirement. Specifically, the parties do not agree on the proper measure of the "respective allocations for repayment of the Central Valley Project." Plaintiffs' damages calculations rely upon a document labeled Joint Exhibit 2, which was admitted into evidence at trial. A599. Joint Exhibit 2 sets forth the ten-year rolling averages of CVP capital costs; the document was not developed for the specific purpose of calculating CVPIA proportionality pursuant to Section

3407(d). *Id.* Joint Exhibit 2, which is based on the 1975 cost allocation study, includes water distribution costs in the calculation of CVP capital costs, and in doing so, Joint Exhibit 2 repeats that study’s error, which was later corrected by the Final CAS. Joint Exhibit 2 does not represent the “allocated” costs of repayment of the CVP, nor does it apply the specific policy guidance in place at the time, the 1993 Revised Interim Guidelines. A63. Based on Joint Exhibit 2, plaintiffs will likely assert that the Court should award \$81,872,385 in damages. A146.

Our damages calculation, by contrast, does not repeat the error contained in the 1975 cost allocation study, namely the inclusion of water distribution system costs in the CVP repayment. Instead, our damages calculation excludes water distribution system costs because those costs, for the reasons explained below, are not part of the CVP repayment. In addition, our methodology utilizes a two-year lag in calculating power’s M&R assessment. A94-95. For example, to determine power’s M&R payment for fiscal year 2021, Reclamation uses allocation data from FY 2010-2019 – the most recent 10-year average allocation for repayment of CVP – and actual water receipts from FY2019 – the most recent data for water receipts. *Id.* For the sake of consistency, we used the two-year lag approach for the entire damage period. Our damage calculation is \$68,154,911. A96.

Almost the entire difference between the parties’ respective damages calculations stems from the inclusion or exclusion of water distribution system costs.³

³ Aside from water distribution system costs, there are a number of additional costs that the Final CAS excluded from CVP cost allocation that Joint Exhibit 2 included. The rationale for their exclusion is identified in the attached witness disclosure. A178. Apart from arguing that the Final CAS assumptions cannot be retroactively applied for purposes of calculating damages, it is not clear that plaintiffs will have any basis for

ARGUMENT

I. Summary Judgment Standard

Summary judgment is appropriate “if the movant shows that there is no genuine issue of material fact and the movant is entitled to judgment as a matter of law.” RCFC 56(a). A genuine issue of material fact is one that can change the outcome of the litigation. *See Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247-48 (1986). The moving party bears the burden of demonstrating the absence of any genuine issues of material fact. *See Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986). It “may discharge its burden by showing the court that there is an absence of evidence to support the nonmoving party’s case.” *Dairyland Power Co-Op v. United States*, 16 F.3d 1197, 1202 (Fed. Cir. 1994). Once the moving party satisfies its burden, the nonmoving party must establish a genuine issue of material fact and cannot rest on mere allegations, but must present actual evidence.” *Crown Operations Int’l, Ltd. v. United States*, 289 F.3d 1367, 1375 (Fed. Cir. 2002). To do so, it “must do more than simply show that there is some metaphysical doubt as to the material facts Where the record taken as a whole could not lead a rational trier of fact to find for the nonmoving party, there is no genuine issue for trial.” *Scott v. Harris*, 550 U.S. 372, 380 (2007). Nonetheless, “[a] nonmoving party’s failure of proof concerning the existence of an element essential to its case on which the nonmoving party will bear the burden of proof at trial necessarily renders all other facts immaterial and entitles the moving party to summary judgment as a matter of law.” *Dairyland Power Co-op*, 16 F.3d at 1202. In considering a motion for summary

disputing the rationales for their exclusion. And, as we demonstrate, plaintiffs’ objection to so-called retroactive application of the Final CAS lacks merit.

judgment, “all justifiable inferences are to be drawn in the non-movant’s favor.” *Yates v. United States*, 588 F.3d 1369, 1371 (Fed. Cir. 2009).

II. The Government’s Damages Calculation Correctly Excludes Water Distribution System Costs Under Section 3407(d) Of The CVPIA

Under Section 3407(d) of the CVPIA, plaintiffs’ M&R payment must, “to the greatest degree practicable,” be proportional to their “respective allocations for repayment of the Central Valley Project.” The *sine qua non* of CVP repayment is the repayment of facilities that are financially and operationally integrated in the CVP. Such facilities provide common services and confer common benefits the costs of which are allocated equitably among project beneficiaries. Water distribution systems, by contrast, do not confer benefits on any project beneficiaries other than the single contracting entity that operates the system. Water distribution system costs, likewise, are born by a single contracting entity alone, and are not pooled with CVP project costs. In short, water distribution systems are not part of the financially operationally integrated CVP, and therefore, water distribution system costs fall outside of the “repayment of the CVP.” Moreover, plaintiffs’ argument that excluding water distribution systems from the damages calculation is an impermissible retroactive application of the Final CAS is meritless because the issue is whether those costs are for “repayment of the Central Valley Project” under the CVPIA, which they are not. As early as 1946, Reclamation correctly recognized that water distribution systems fell outside the purview of the CVP. A543. Plaintiffs should not benefit from an error in the 1975 cost allocation study – later corrected by the Final CAS – where the facts, all along, have revealed that water distribution systems are stand-alone entities and are not part of the repayment of the CVP.

A. Because Water Distribution Systems Are Neither Financially Nor Operationally Integrated in the CVP, They Are Not Part Of CVP Repayment

The CVP's defining feature is the fact that it is a financially and operationally integrated multipurpose water project. *See Westland Water Dist. v. United States*, 153 F. Supp. 2d 1133 1173 (E.D. Cal. 2001) ("The Bureau holds rights to all water in the CVP, as an appropriator under permits from the California State Water Resources Control Board, which it uses to operate the CVP as integrated unit."); *id.* at 11158 ("Interior's discretion to manage the CVP as an integrated whole makes reasonable the diversion and use of Sacramento River and Delta water through the San Luis unit to satisfy vested, senior, contractual water rights held by Exchange Contractors."); *Morici Corp. v. United States*, 491 F. Supp. 466, 490-91 (E.D. Cal. 1980) ("The Central Valley Project is operated as an integrated whole, rather than as a number of separate, isolated parts, because water releases at any one facility must be coordinated with releases at other facilities in that river basin."); *Gustine Land & Cattle Co. v. United States*, 174 Ct. Cl. 556, 605 (1966) ("The first integrated operation of the Central Valley Project occurred in August 1951, upon the completion of the initial features of the Delta-Mendota Canal.").

Congressional authorizations of CVP facilities further underscore the point. For example, in 1955, Congress enacted the Trinity River Division Act, which authorized the construction of power plants in Trinity County. The Act states that "the operation of the Trinity River division shall be integrated and coordinated, from a financial and operational standpoint, with the operations of other features of the Central Valley Project" Pub. L. No. 84-386, 69 Stat. 719 (1955); *see also Trinity Cty. Pub. Utilities Dist. v. Harrington*, 781 F.2d 163, 165 (9th Cir. 1986) ("The plain language of the Trinity and

New Melones Acts, which provides for the integration of the Trinity and New Melones plants into the CVP system, defeats appellants argument that Congress intended them to receive energy exclusively from the Trinity or New Melones plants.”)

There are stark differences between the operational integration of the CVP and the operational independence of individual water distribution systems. For instance, Reclamation operates the CVP in close coordination with the California Department of Water Resources and its operation of the State Water Project (SWP). *See Tehama-Colusa Canal Auth. v. U.S. Dep’t of Interior*, 819 F. Supp. 2d 956, 965-66 (E. D. Cal. 2011), *aff’d sub nom. Tehama-Colusa Canal Auth v. U.S. Dep’t of the Interior*, 721 F.3d 1086 (9th Cir. 2013). The integrated operations of the CVP and SWP are prescribed through a Coordination Operations Agreement that outlines each Project’s obligations, goals, and expectations in meeting requirements of the SWP’s State of California water rights along with other permitting conditions. *Id.* CVP operations are coordinated to obtain maximum yields and to deliver water into the main river channels and canals of the project in the most efficient and economical manner. A398.

By contrast, the operation of a contractor’s individual water distribution system is not Reclamation’s responsibility; it is the sole responsibility of the contractor. For example, a standard provision in a water distribution system contract states that “[u]pon substantial completion of the distribution system, or otherwise determined by the Contracting Officer, and following written notification, the care, operation, and maintenance of any or all of the distribution system shall be transferred to the Contractor.” A12. In other words, the contractor operates the water distribution facility to meet the needs of its district and to meet the various needs of its water district

independent of the operations of the CVP. As the Commissioner affirmed in his 1946 letter to Congress, Reclamation's responsibility for water delivery ends at river-side or canal side; what happens to the water once it is in the water distribution system is the responsibility of the individual contractor and is outside Reclamation's purview. A543.

Likewise, there is a clear distinction between the financial integration of the CVP, as exemplified by the Reclamation's water rate policy and the repayment schedule of water distribution systems. The water rate-setting process is used to calculate water service rates that recover the Federal investment in constructing, operating, and maintaining the CVP. A486. The underlying principle behind the rate-setting process is that the CVP contractors benefit from the common services of the CVP, they should share in the repayment of the CVP.

Conversely, rate-setting policy makes clear that "[t]he costs of isolated or out-of-basin facilities are the direct repayment responsibility of the contractor or group of contractors who benefit from the services provided by the facilities" and "repayment for operation of isolated or out-of-basin facilities . . . will not be shared by the other CVP contractors." A594. In other words, facilities, such as water distribution systems, that only benefit a single contractor (or group of contractors), rather than the CVP as a whole, do not share in CVP repayment. Indeed, a standard water distribution contract provides that the contractor will pay the United States the actual costs incurred in constructing the distribution system. A7. The costs of the distribution system are borne by the individual contractor alone and are not allocated among CVP project beneficiaries because water distribution systems benefit only that single contractor. Quite simply, water distribution system costs are not allocated for repayment of the CVP.

B. Plaintiffs' Damages Theory Fails Because The CVPIA Does Not Authorize The Inclusion Of Water Distribution System Costs

Plaintiffs' primary argument is that the Government's retroactive application of the Final CAS's exclusion of distribution costs for purposes of calculating damages is improper, and that the Government should have utilized the assumptions of the 1975 cost allocation study that included distribution costs. Emblematic of plaintiffs' argument is its reliance upon Joint Exhibit 2 for purposes of calculating damages, which consistent with the 1975 cost allocation study, includes distribution system costs in calculating the 10-year rolling average of CVP capital costs. Plaintiffs' argument that Joint Exhibit 2 represents Reclamation's contemporaneous calculation of the CVP repayment allocation percentages is contradicted by trial testimony.

Dr. Mooney, Reclamation's program manager for the administration of the CVPIA, testified that Reclamation did not calculate the target allocation (*i.e.*, the proportional M&R assessment) each year. A292 (Tr. 537: 10-17). And Gail Trujilio-Bixby testimony, as the CVPIA accountant, regarding Joint Exhibit 2, is too equivocal to support plaintiffs' argument. When asked at trial about whether Joint Exhibit 2 represents commercial power's repayment allocation of the CVP, Ms. Trujilio-Bixby stated that "I'm not an expert in these numbers." A299 (Tr. 347:10-13). When pressed, Ms. Trujilio-Bixby stated "That's what this table says." *Id.* (Tr. 347:15). However, Joint Exhibit 2 does not reference an "allocation for repayment," it simply references CVP capital costs, which is a separate concept. A599.

In any event, whether Reclamation would have included the distribution system costs in its proportionality calculation at the time of the illegal exactions is irrelevant. Because this is an illegal exaction case, damages are the difference between what

plaintiffs paid and what assessment the statute authorizes. *See Norman v. United States*, 429 F.3d 1081, 1095 (Fed. Cir. 2005) (“An illegal exaction . . . involves money that was ‘improperly paid, exacted, or taken from the claimant in contravention of the Constitution, a statute, or a regulation’”) (quoting *Eastport S.S. Corp. v. United States*, 372 F.2d 1002, 1007 (1967)). In order to include distribution costs in the proportionality calculation, under section 3407(d) of the CVPIA, those costs have to be “allocated for repayment of the Central Valley Project.” As the Acting Commissioner observed in his 1946 letter to Congress, water distribution systems “have no direct relationship to the central operation, control, and financial accounting of the Central Valley Project.” A543. In like vein, Reclamation’s 1993 Revised Interim Guidelines unequivocally states that “[t]he respective allocations for repayment of the Project shall be exclusive of any Water Contractor obligations to provide for repayment of distribution and drainage service constructed for or financed by the United States for the exclusive use of individual Water Contractors.” A63. As we have demonstrated, because water distribution system costs do not share in the repayment of the CVP, they should be excluded from the calculating proportionality under section 3407(d) of the CVPIA.

CONCLUSION

For the reasons stated above, we respectfully request that the Court grant our motion for summary judgment.

Respectfully submitted,

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December 17, 2021

CERTIFICATE OF ELECTRONIC FILING

I hereby certify under penalty of perjury that on this 17th day of December, 2021, a copy of the foregoing “**DEFENDANT’S MOTION FOR SUMMARY JUDGEMENT WITH APPENDIX**” was filed electronically. I understand that notice of this filing will be sent to all parties by operation of the Court’s electronic filing system. Parties may access this filing through the Court’s system.

s/ P. Davis Oliver

No. 19-506
(Judge Tapp)

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER AGENCY,
et. al,

Plaintiffs,

v.

UNITED STATES,

Defendant.

APPENDIX

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December 17, 2021

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*Validation
entered in Court
March 30, 1976*

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Rev. R.O. 10/15-1973

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Central Valley Project, California

Contract No.
14-06-200-8311A

CONTRACT BETWEEN THE UNITED STATES OF AMERICA
AND THE DUNNIGAN WATER DISTRICT PROVIDING FOR
CONSTRUCTION OF A DISTRIBUTION SYSTEM

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Contract No.
14-06-200-8311A

1 UNITED STATES
2 DEPARTMENT OF THE INTERIOR
3 BUREAU OF RECLAMATION
4 Central Valley Project, California

5 CONTRACT BETWEEN THE UNITED STATES OF AMERICA
6 AND THE DUNNIGAN WATER DISTRICT PROVIDING FOR
7 CONSTRUCTION OF A DISTRIBUTION SYSTEM

8 THIS CONTRACT, made this 5th day of December, 1975,
9 in pursuance generally of the Act of June 17, 1902 (32 Stat. 388), and
10 acts amendatory thereof or supplementary thereto, all collectively
11 hereinafter referred to as the Federal reclamation laws, between THE
12 UNITED STATES OF AMERICA, hereinafter referred to as the United States,
13 and the DUNNIGAN WATER DISTRICT, hereinafter referred to as the
14 Contractor or District, a public agency of the State of California, duly
15 organized, existing, and acting pursuant to the laws thereof, with its
16 principal place of business in Woodland, California,

17 WITNESSETH, That:

18 EXPLANATORY RECITALS

19 WHEREAS, the United States is constructing and operating the
20 Central Valley Project for the purpose, among others, of furnishing
21 water for irrigation, municipal, domestic, and other beneficial uses;
22 and

Preamble
Explanatory Recitals--

1 WHEREAS, the United States will furnish Central Valley
2 Project water to the Contractor pursuant to the contract with the
3 Contractor, No. 14-06-200-399A, dated February 5, 1963, or as it may
4 hereafter be amended, renewed, or extended; and

5 WHEREAS, in order to utilize the water supply made available
6 under the aforesaid contract, the Contractor desires that a general
7 distribution and lateral system be constructed by the United States;
8 and

9 WHEREAS, the United States is willing to undertake the con-
10 struction of the distribution system under the conditions hereinafter
11 set forth;

12 NOW, THEREFORE, in consideration of the covenants herein
13 contained, it is agreed as follows:

14 DEFINITIONS

15 1. When used herein, unless otherwise distinctly expressed or
16 manifestly incompatible with the intent hereof, the term:

17 (a) "Secretary" or "Contracting Officer" shall mean the
18 Secretary of the Interior or his duly authorized representative;

19 (b) "Project" shall mean the Central Valley Project,
20 California, of the Bureau of Reclamation;
21
22

1 (c) "Canal" shall mean the Tehama-Colusa Canal or any
2 alternative facilities provided by the United States and used
3 in whole or in part for the furnishing of water to the Contractor;

4 (d) "distribution system" shall mean the general distri-
5 bution and lateral system, related distribution works, or a
6 portion or portions thereof, facilities for the integration of
7 groundwater, a drainage system, office and shop buildings, and all
8 lands and interests in lands connected therewith. The distri-
9 bution system shall include such pipelines and related works as
10 are necessary to deliver water from the Canal to selected delivery
11 points of the Contractor;

12 (e) "year" shall mean the calendar year; and

13 (f) "water service contract" shall mean the contract,

14 No. 14-06-200-399A, between the Contractor and the United States.

15 CONSTRUCTION OF DISTRIBUTION SYSTEM AND LIMIT OF EXPENDITURES THEREFOR

16 2. (a) To the extent that funds may now or hereafter be avail-
17 able, the United States will expend toward construction of a distribution
18 system a sum not in excess of \$5,928,000; or so much thereof which the
19 Contracting Officer deems necessary for the completion of said system:
20 Provided, That said sum is subject to increase or decrease by mutual
21 agreement based upon fluctuations in construction cost indicators as
22 determined by the Contracting Officer between the date of execution of

1 this contract and the award of the contract for construction of the
2 distribution system. The distribution system will be constructed so
3 as to provide service to a total of approximately 8,885 acres of
4 irrigable land within the Contractor's service area. The Contractor
5 shall construct the works necessary to deliver water from the distri-
6 bution system as finally approved for construction to such additional
7 irrigable acreage for which service is not initially provided. The
8 distribution system will not include the Canal or Canal right-of-way,
9 the canalside pumping plants, nor any other facilities or structures
10 located therein, except as the same are required for handling water after
11 delivery thereof to the Contractor from the Canal. Necessary relief
12 pumps located away from canalside for reasons of economy are deemed to
13 be water supply works and will be furnished as part of the canalside
14 pumps pursuant to the water service contract. The general type and
15 layout of the distribution system shall be subject to review and approval
16 of the Contractor, evidenced by a resolution of the Board of Directors
17 prior to commencement of construction of the distribution system.

18 (b) The United States and the Contractor recognize that
19 drainage works may be required from time to time for the preservation
20 of the Contractor's lands. Funds provided under this contract may be
21 used toward construction of such drainage works subject to agreement
22 between the Contracting Officer and the Contractor.

1 (c) The distribution system shall be considered completed
2 for purposes of this contract when so determined by the Contracting
3 Officer. The determination shall be announced by written notice to
4 the Contractor and may be made when the distribution system, not
5 including the drainage works, is so far completed as to be available
6 for use for substantially all of the irrigable lands which said system
7 is designed to serve or upon the basis of the completion of such part
8 thereof as the funds provided for in subdivision (a) of this article
9 will permit.

10 (d) Quarterly progress reports on design and construction of
11 the facilities, including costs thereof in the form normally used by
12 the United States will be furnished to the Contractor. The United
13 States will furnish other related information in its possession as may
14 be requested by the Contractor.

15 PAYMENT BY CONTRACTOR

16 3. (a) The Contractor shall be obligated to pay to the United
17 States the actual cost, but in no event in excess of \$5,928,000, incurred
18 by the United States in providing for the distribution system: Provided,
19 That said amount is subject to increase or decrease in the amount and
20 in the manner specified for the limit of expenditures in subdivision (a)
21 of Article 2 hereof. The construction obligation shall be repaid by
22 the Contractor as provided in subdivision (b) of this article.

1 (b) The construction obligation shall be paid by the Con-
2 tractor in 80 successive, equal semiannual installments payable on
3 February 1 and August 1 of each year commencing with the year following
4 the last year of the development period described in Article 4. If the
5 actual construction cost has not been determined by the Secretary when
6 the first construction obligation installment hereunder becomes due,
7 he shall announce the estimated construction cost. Such estimated
8 construction cost shall govern the amount of the installments herein
9 referred to until such time as the total construction obligation can be
10 determined and a statement thereof furnished to the Contractor. There-
11 after, the semiannual installments to be paid by the Contractor will be
12 adjusted to reflect any difference between the estimated and actual cost
13 of the distribution system.

14 (c) Upon request of the Contractor, evidenced by a certified
15 copy of a resolution by the Board of Directors, the Contracting Officer
16 may, at his discretion, establish dates upon which semiannual install-
17 ments of the construction obligation shall be due and payable other than
18 the dates provided in subdivision (b) of this article.

19 DEVELOPMENT PERIOD

20 4. A development period is hereby fixed at 6 years from and
21 including the first year in which the distribution system is so far
221 completed as to be available for use and water is available for

1 furnishing from the Canal to the Contractor pursuant to the water
2 service contract for substantially all of the irrigable lands within
3 the Contractor's service area, as announced by the Contracting Officer
4 in a written notice to the Contractor. Such notice shall be furnished
5 to the Contractor at least 6 months prior to the date of the commencement
6 of the development period.

7 OPERATION AND MAINTENANCE OF COMPLETED PORTIONS OF SYSTEM

8 5. Whenever, prior to the commencement of the development period
9 as provided in Article 4 hereof, the Contracting Officer determines that
10 any portion or portions of said system may be utilized for distributing
11 water for and on behalf of the Contractor without interfering with the
12 construction of the remainder of the distribution system, he will so
13 notify the Contractor in a written notice, stating the period of
14 availability and the cost to the United States of supervising the
15 operation and maintenance of such portion or portions of the system during
16 such period. If the Contractor desires that such portion or portions of
17 the system be so utilized, it shall give the Contracting Officer written
18 notice thereof and make payment in advance to the United States of said
19 cost of supervision. Thereupon the Contractor will operate and maintain
20 said portion or portions of the system during said period: Provided,
21 That if the Contracting Officer determines that the continued use of a
22 completed portion or portions of the distribution system is interfering,

1 or will interfere, with the construction of the distribution system
2 he shall notify the Contractor of the cost of the construction delay
3 if the distribution system continues to operate. The Contractor may
4 pay this amount to the United States within 30 days of the notice if
5 the Contractor determines it desires to continue use of the distri-
6 bution system. If the actual cost to the United States of supervising
7 the operation and maintenance of said portion or portions exceeds the
8 estimated cost paid in advance by the Contractor, the Contractor shall
9 pay the difference upon receipt of a written notice thereof. If said
10 actual cost is less than said estimated cost, at the option of the
11 Contractor, the difference shall either be credited upon future payments
12 due to the United States or be refunded to the Contractor.

13 ESTIMATED COST OF OPERATION AND MAINTENANCE
14 BY UNITED STATES TO BE PAID IN ADVANCE

14 6. (a) During the time that the distribution system or any
15 part thereof is being operated by the United States as provided in
16 Article 7, commencing with the first year of the development period
17 the Contractor will pay in advance to the United States not later than
18 January 1, upon estimates furnished by the United States on or before
19 September 1 preceding, the estimated cost of operation and maintenance
20 for such year. The Contractor, in addition, shall contribute such labor
21 and materials toward the operation and maintenance of the distribution
22 system or any portion thereof as may be requested by the Contracting
23 Officer. The surplus of any amount so advanced by the Contractor for

1 operation and maintenance by the United States during any year shall
2 be credited on future estimated cost of operation and maintenance by
3 the United States.

4 (b) Whenever in the opinion of the Contracting Officer the
5 amounts available from payments made by the Contractor for estimated
6 annual operation and maintenance charges will be inadequate to operate
7 and maintain the distribution system properly to the end of any year,
8 he may give written notice to the Contractor of a supplemental operation
9 and maintenance charge, stating therein the amount of additional advance
10 payment of funds required for such operation and maintenance, and the
11 Contractor shall pay the amount thereof by the date specified in such
12 notice of supplemental operation and maintenance charge, which date
13 shall not be sooner than 30 days after date of such notice.

14 (c) Any amount of said operation and maintenance payments
15 by the Contractor remaining unexpended and unobligated in the possession
16 of the United States on the effective date of a transfer of the distri-
17 bution system to the Contractor for care, operation, and maintenance,
18 in accordance with Article 7 hereof, shall be refunded to the Contractor.

19 (d) To the extent that the distribution system or any portion
20 thereof is operated and maintained by the United States, there shall be
21 included as a part of the operation and maintenance costs such items for
22 administration, supervision, inspection, replacement, and general expenses
23 as, in the opinion of the Contracting Officer, are properly chargeable
24 to such work.

OPERATION AND MAINTENANCE OF TRANSFERRED
WORKS--PAYMENT OF MISCELLANEOUS COSTS

7. (a) Upon substantial completion of the distribution system, or as otherwise determined by the Contracting Officer, and following written notification, the care, operation, and maintenance of any or all of the distribution system shall be transferred to the Contractor.

(b) The Contractor, without expense to the United States, shall care for, operate, and maintain such transferred works in full compliance with the terms of this contract, and in such manner that said transferred works will remain in good and efficient condition.

(c) The Contractor shall promptly make any and all repairs to the transferred works being operated by it which are necessary for proper care, operation, and maintenance. In case of neglect or failure of the Contractor to make such repairs within 60 days following written notification, the Contracting Officer may cause the repairs to be made, and the cost thereof shall be paid by the Contractor as prescribed by the Contracting Officer.

(d) No substantial change shall be made by the Contractor in any of the major transferred works without first obtaining the written consent of the Contracting Officer.

(e) The Contractor shall hold the United States, its officers, agents, and employees harmless as to any and all damages which may in any manner grow out of the care, operation, and maintenance, of any of the works transferred to the Contractor.

1 (f) In the event the Contractor is found to be operating
2 the transferred works or any part thereof in violation of this
3 contract, then at the election of the Contracting Officer the United
4 States may take over from the Contractor the care, operation, and
5 maintenance of such transferred works by giving written notice to the
6 Contractor of such election and of the effective date thereof. There-
7 after, during the period of operation by the United States, the
8 Contractor shall pay to the United States annually in advance the cost
9 of operation and maintenance of such works as prescribed in notices
10 from the Contracting Officer to the Contractor. Such works may be
11 retransferred to the Contractor in the manner originally transferred.

12 (g) In addition to all other payments to be made by the
13 Contractor under this contract, the Contractor shall, during the period
14 of time any or all of the transferred works are being operated by it,
15 pay to the United States following the receipt of a detailed statement,
16 the costs incurred by the United States for work involved in the adminis-
17 tration and supervision of this contract.

REVIEW AND INSPECTION OF PROJECT WORKS FOR
DETERMINING ADEQUACY OF MAINTENANCE

8. (a) The Contracting Officer with the Contractor may, from time to time, make reviews of maintenance of transferred works being operated by the Contractor with a view to assisting the Contractor in determining the condition of facilities and the adequacy of the maintenance program. This review may include any or all of the facilities constructed by the United States and transferred to the Contractor or facilities constructed by the Contractor with funds advanced by the United States. A report of the review, including recommendations, if any, will be prepared and copies will be furnished to the Contractor. Except for such participation by the Contractor as it may desire, the review will be without cost to the Contractor.

(b) If deemed necessary by the Contracting Officer or requested by the Contractor, special inspections of any transferred works being operated by the Contractor and of the Contractor's books and records may be made to ascertain the extent of any operation and maintenance deficiencies, to determine the remedial measures required for their correction, and to assist the Contractor in solving specific problems. Any special inspection or audit shall, except in a case of emergency, be made after written notice to the Contractor and the actual cost thereof shall be paid by the Contractor to the United States.

DRAINAGE STUDIES AND FACILITIES

1
2 9. To aid in determining the source and solution of future
3 potential drainage problems, the Contractor shall provide for
4 observation wells, in a manner satisfactory to the Contracting
5 Officer, and furnish annually to the Contracting Officer records
6 and analyses of well readings as they relate to potential drainage
7 problems. If and when needed, the Contractor shall construct drainage
8 works to protect the irrigability of lands within the District.

RESERVE FUND

9
10 10. Commencing with the year following completion of the distri-
11 bution system and continuing until such time as all sums of money
12 becoming due hereunder shall have been paid to the United States, the
13 Contractor shall accumulate and maintain a reserve fund which will be
14 available for use in the manner, for the purposes, and in the circumstances
15 hereinafter set forth. Such reserve fund shall consist of annual deposits
16 by the Contractor of not less than \$2,500 to a special account created by
17 the Contractor for the purpose. Such annual deposits shall continue until
18 the amount in the reserve fund is not less than \$25,000. Expenditures
19 shall be made from such reserve fund only for meeting major unforeseen
20 extraordinary costs of operation and maintenance, repair, betterment
21 and replacement of transferred works, and for operation and maintenance
22 during periods of special stress, such as may be caused by drought,
23 hurricane storms, or other like emergencies. Whenever said reserve

1 fund is reduced below \$25,000 by expenditures therefrom, it shall be
2 restored by the accumulation of annual deposits of \$2,500 commencing
3 with the next year following that in which the fund is reduced below
4 said amount. During any period in which any of the transferred works
5 are operated and maintained by the United States, such fund shall be
6 available for like use by the United States. At the option of the
7 Contractor, the reserve fund may be invested to the extent permitted
8 by law, provided that such reserve fund may be made available within
9 a reasonable time to meet the expenses for the purpose for which it
10 was accumulated: Provided, That upon mutual agreement said fund and the
11 annual installments may be adjusted to reflect the addition, deletion,
12 or changes in transferred facilities and operation and maintenance costs
13 not contemplated when this contract was executed.

14 CONTRACTOR TO PAY CERTAIN MISCELLANEOUS COSTS RELATING TO TRANSFERRED WORKS

15 11. During the time the transferred works are operated and maintained
16 by the Contractor, in addition to all other payments to be made by the
17 Contractor under this contract, the Contractor shall pay to the United
18 States, on or before May 1 of the year following that in which the same
19 shall have been incurred and after a detailed statement thereof is
20 furnished by the Contracting Officer, for such specific items of direct
21 cost incurred by the United States and properly and equitably chargeable
22 to the Contractor plus a percentage of such direct costs for adminis-
23 trative and general overhead in accordance with the Bureau of Reclamation
24 manual.

1 COMPUTATION OF COSTS

2 12. The actual cost of the distribution system shall include all
3 expenditures by the United States of whatsoever kind in connection with,
4 growing out of, or resulting from work performed in connection with the
5 distribution system, including but not limited to the cost of labor,
6 material, equipment, engineering and legal work, superintendence,
7 administration and overhead, rights-of-way, property, and damage of
8 all kinds, and shall include all sums expended in surveys and investi-
9 gations in connection with the distribution system, both prior to and
10 after the execution of this contract, and the expense of all soil
11 investigations and other preliminary work, limited, however, to the
12 sum set forth in subdivision (a) of Article 2 of this contract. The
13 determination of what costs are properly chargeable hereunder and the
14 amount thereof shall be made by the Contracting Officer.

15 TITLE TO REMAIN IN THE UNITED STATES

16 13. Title to the distribution system constructed by the United
17 States pursuant to this contract shall be and remain in the name of
18 the United States until otherwise provided for by the Congress,
19 notwithstanding the transfer hereafter of any of such works to the
20 Contractor for operation and maintenance and the fact of full pay-
21 ment of the repayment obligation.

1 LAND INELIGIBLE TO RECEIVE WATER UNDER THE WATER SERVICE CONTRACT
 NOT TO RECEIVE SERVICE THROUGH THE DISTRIBUTION SYSTEM

2 14. No service from the distribution system shall be made avail-
 3 able by the Contractor to any lands or persons not eligible under the
 4 terms of Articles 20, 21, and 22 of the water service contract to
 5 receive water made available pursuant to that contract.

6 REPEAL OR AMENDMENT OF FEDERAL RECLAMATION LAWS

7 15. In the event the Congress of the United States repeals the
 8 so-called excess land provisions of the Federal reclamation laws,
 9 Articles 20, 21, and 22 of the water service contract will no longer
 10 be of any force or effect, or in the event that the Congress amends the
 11 excess land provisions of the Federal reclamations laws the United States
 12 agrees, at the option of the Contractor, to negotiate amendments of
 13 appropriate articles of the water service contract consistently with
 14 those provisions of the Federal reclamations laws as so amended

15 PERFORMANCE OF WORK WITH CONTRIBUTED FUNDS

16 16. (a) Pursuant to the Act of March 4, 1921 (41 Stat. 1367, 1404)
 17 the United States will perform with funds contributed by the Contractor
 18 any construction or maintenance work on the distribution system not
 19 otherwise provided for by this contract, or any construction work
 20 covered by this contract but for which funds may not be available:
 21 Provided, That the undertaking of any such work and the plans therefor
 22 must be approved by the Contracting Officer. When the undertaking of

1 such work is approved, funds therefor shall be advanced by the
2 Contractor as may be directed by the Contracting Officer and there
3 shall be submitted to the Contracting Officer a certified copy of the
4 resolution of the Board of Directors of the Contractor describing the
5 work to be done and authorizing its performance with contributed funds.

6 (b) After completion of any work so undertaken the Con-
7 tractor will be furnished a statement of the cost thereof and any
8 unexpended balance of the funds will be refunded to the Contractor or
9 applied as otherwise directed by the Contractor: Provided, That if the
10 cost of such work exceeds the amount advanced by the Contractor therefor,
11 said amount shall be paid by the Contractor to the United States as the
12 Contracting Officer may direct.

13 RULES AND REGULATIONS

14 17. The Contracting Officer, after offering the Contractor an
15 opportunity for consultation, shall make rules and regulations and supply
16 necessary details for administration of this contract. Such rules and
17 regulations shall be consistent with the provisions of this contract,
18 the laws of the United States, and the State of California. The
19 Contracting Officer may add to or modify them as may appear necessary
20 and the Contractor shall observe such rules and regulations.

21

22

1 DETERMINATION OF FINDINGS OF FACTS

2 18. Where the terms of this contract provide for action to be
3 based upon the opinion or determination of either party to this
4 contract, said terms shall not be construed as permitting such action
5 to be predicated upon arbitrary, capricious, or unreasonable opinions
6 or determinations, whether or not stated to be conclusive. If the
7 Contractor questions any determination made by the Contracting Officer,
8 the findings of facts shall be made by the Secretary after consultation
9 with the Contractor and shall be binding upon the parties.

10 TAXABLE LAND

11 19. The lands which may be charged with any taxes or assessments
12 under this contract are hereby designated and described as all the lands
13 in the District.

14 GENERAL OBLIGATION--BENEFITS CONDITIONED UPON PAYMENT

15 20. (a) The obligation of the Contractor to pay the United States
16 as provided in this contract is a general obligation of the Contractor
17 notwithstanding the manner in which the obligation may be distributed
18 among the Contractor's water users and notwithstanding the default of
19 individual water users in their obligations to the Contractor.

20 (b) The payment of charges becoming due hereunder is a
21 condition precedent to receiving benefits under this contract. The
22 electors of the Contractor, upon authorization or ratification of this

1 contract, grant to the Contractor the power to levy and collect all
2 necessary taxes and assessments, if and when needed, to make in full
3 all payments to be made pursuant to this contract. No water will be
4 made available to the Contractor through the distribution system
5 during any period in which the Contractor may be in arrears in the
6 advance payment of any operation and maintenance charges due the
7 United States or in arrears for more than 12 months in the payment of
8 any construction charges due the United States. The Contractor shall
9 not furnish water made available pursuant to this contract for lands or
10 parties which are in arrears in the advance payment of operation and
11 maintenance or toll charges or in arrears more than 12 months in the
12 payment of construction charges as levied or established by the
13 Contractor.

14 INTEREST FOR DELINQUENT PAYMENTS

15 21. The Contractor shall pay interest on installments or charges
16 which become delinquent computed at the rate of 1% per month of the
17 amount of such delinquent installments or charges for each day from
18 such delinquency until paid: Provided, That no interest shall be
19 charged to the Contractor unless such delinquency continues for more
20 than 30 days in which event the interest shall accrue from the initial
21 date of delinquency.

22

1 QUALITY OF WATER

2 22. The operation and maintenance of the distribution system
3 shall be performed in such manner as is practicable to maintain the
4 quality of raw water made available through such system at the
5 highest level reasonably attainable as determined by the Contracting
6 Officer. The United States does not warrant the quality of water
7 and is under no obligation to construct or furnish water treatment
8 facilities to maintain or better the quality of water.

9 ENVIRONMENT PROTECTION AND POLLUTION CONTROL

10 23. The Contractor shall, within its legal authority, comply fully
11 with all applicable Federal laws, orders, and regulations, and the laws
12 of the State of California, all as administered by appropriate authorities,
13 concerning protection of the environment and pollution of air, streams,
14 reservoirs, groundwater, or water courses with respect to thermal
15 pollution or the discharge of refuse, garbage, sewage effluent, industrial
16 waste, oil, mine tailings, mineral salts, or other pollutants.

EQUAL OPPORTUNITY

24. During the performance of this contract, the Contractor agrees as follows:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this Equal Opportunity clause.

(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

1 (c) The Contractor will send to each labor union or
2 representative of workers with which it has a collective
3 bargaining agreement or other contract or understanding, a
4 notice, to be provided by the Contracting Officer, advising
5 the labor union or workers' representative of the Contractor's
6 commitments under this Equal Opportunity clause, and shall
7 post copies of the notice in conspicuous places available to
8 employees and applicants for employment.

9 (d) The Contractor will comply with all provisions of
10 Executive Order No. 11246 of September 24, 1965, as amended,
11 and of the rules, regulations, and relevant orders of the
12 Secretary of Labor.

13 (e) The Contractor will furnish all information and
14 reports required by said amended Executive Order and by the
15 rules, regulations, and orders of the Secretary of Labor, or
16 pursuant thereto, and will permit access to its books, records,
17 and accounts by the Contracting Officer and the Secretary of
18 Labor for purposes of investigation to ascertain compliance
19 with such rules, regulations, and orders.

20 (f) In the event of the Contractor's noncompliance with
21 the Equal Opportunity clause of this contract or with any of
22 the said rules, regulations, or orders, this contract may be

1 canceled, terminated, or suspended, in whole or in part, and
2 the Contractor may be declared ineligible for further Govern-
3 ment contracts in accordance with procedures authorized in said
4 amended Executive Order, and such other sanctions may be imposed
5 and remedies invoked as provided in said Executive Order, or by
6 rule, regulation, or order of the Secretary of Labor, or as
7 otherwise provided by law.

8 (g) The Contractor will include the provisions of para-
9 graphs (a) through (g) in every subcontract or purchase order
10 unless exempted by rules, regulations, or orders of the Secretary
11 of Labor issued pursuant to Section 204 of said amended Executive
12 Order, so that such provisions will be binding upon each sub-
13 contractor or vendor. The Contractor will take such action with
14 respect to any subcontract or purchase order as the Contracting
15 Officer may direct as a means of enforcing such provisions,
16 including sanctions for noncompliance: Provided, however, That
17 in the event the Contractor becomes involved in, or is threatened
18 with, litigation with a subcontractor or vendor as a result of
19 such direction by the Contracting Officer, the Contractor may
20 request the United States to enter into such litigation to
21 protect the interests of the United States.

22

1 **TITLE VI, CIVIL RIGHTS ACT OF 1964**

2 25. (a) The Contractor agrees that it will comply with Title VI
3 of the Civil Rights Act of July 2, 1964 (78 Stat. 241) and all require-
4 ments imposed by or pursuant to the Department of the Interior Regulation
5 (43 CFR 17) issued pursuant to that title, to the end that, in accordance
6 with Title VI of that Act and the Regulation, no person in the United
7 States shall, on the grounds of race, color, sex, or national origin
8 be excluded from participation in, be denied the benefits of, or be
9 otherwise subjected to discrimination under any program or activity for
10 which the Contractor receives financial assistance from the United States
11 and hereby gives assurance that it will immediately take any measures to
12 effectuate this agreement.

13 (b) If any real property or structure thereon is provided or
14 improved with the aid of Federal financial assistance extended to the
15 Contractor by the United States, this assurance obligates the Contractor,
16 or, in the case of any transfer of such property, any transferee for the
17 period during which the real property or structure is used for a purpose
18 involving the provision of similar services or benefits. If any personal
19 property is so provided, this assurance obligates the Contractor for the
20 period during which it retains ownership or possession of the property.
21 In all other cases, this assurance obligates the Contractor for the
22 period during which the Federal financial assistance is extended to it
23 by the United States.

1 (c) This assurance is given in consideration of and for
2 the purpose of obtaining any and all Federal grants, loans, contracts,
3 property, discounts, or other Federal financial assistance extended
4 after the date hereof to the Contractor by the United States, including
5 installment payments after such date on account of arrangements for
6 Federal financial assistance which were approved before such date. The
7 Contractor recognizes and agrees that such Federal financial assistance
8 will be extended in reliance on the representations and agreements
9 made in this assurance, and that the United States shall reserve the
10 right to seek judicial enforcement of this assurance. This assurance
11 is binding on the Contractor, its successors, transferees, and assignees.

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1 BOOKS, RECORDS, AND REPORTS

2 26. The Contractor shall establish and maintain accounts and
3 other books and records pertaining to its financial transactions,
4 land use and crop census, water supply, water use, changes in the
5 distribution system, and to other matters as the Contracting Officer
6 may require. Reports thereon shall be furnished to the Contracting
7 Officer in such form and on such date or dates as he may require.
8 Subject to applicable Federal laws and regulations, each party shall
9 have the right during office hours to examine and make copies of each
10 other's books and records relating to matters covered by this contract.

11 CHANGES IN CONTRACTOR'S ORGANIZATION

12 27. While this contract is in effect, no change shall be made in
13 the Contractor's organization, by inclusion or exclusion of lands, by
14 dissolution, consolidation, merger or otherwise, except upon the
15 Contracting Officer's written consent.

16 NOTICES

17 28. Any notice, demand, or request authorized or required by this
18 contract shall be deemed to have been given when mailed, postage pre-
19 paid, or delivered to the Regional Director, Mid-Pacific Region, Bureau
20 of Reclamation, 2800 Cottage Way, Sacramento, California 95825, on
21 behalf of the United States and to the Board of Directors of the
22 Dunnigan Water District, Post Office Box 387, Woodland, California 95695,

1 on behalf of the Contractor. The designation of the addressee or the
2 address may be changed by notice given in the same manner as provided
3 in this article for other notices.

4 ASSIGNMENT LIMITED--SUCCESSORS AND ASSIGNS OBLIGATED

5 29. The provisions of this contract shall apply to and bind the
6 successors and assigns of the parties hereto, but no assignment or
7 transfer of this contract or any part or interest therein shall be
8 valid until approved by the Contracting Officer.

9 OFFICIALS NOT TO BENEFIT

10 30. (a) No member of or delegate to Congress or resident
11 commissioner shall be admitted to any share or part of this contract
12 or to any benefit that may arise herefrom, but this restriction shall
13 not be construed to extend to this contract if made with a corporation
14 for its general benefit.

15 (b) No official of the Contractor shall receive any benefit
16 that may arise by reason of this contract other than as a landowner
17 within the District and in the same manner as other landowners within
18 the District.

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1 CONTINGENT ON APPROPRIATION OR ALLOTMENT OF FUNDS

2 31. The expenditure or advance of any money or the performance
3 of any work by the United States hereunder which may require appropri-
4 ation of money by the Congress or the allotment of funds shall be
5 contingent upon such appropriation or allotment being made. The
6 failure of the Congress to appropriate funds or the absence of any
7 allotment of funds shall not relieve the Contractor from any obligations
8 under this contract. No liability shall accrue to the United States in
9 case such funds are not appropriated or allotted.

10 CONFIRMATION OF CONTRACT

11 32. The execution of this contract shall be authorized or
12 ratified by the qualified electors of the Contractor at an election
13 held for that purpose. The Contractor, after the election and upon
14 the execution of this contract, shall promptly secure a final decree
15 of the proper court of the State of California approving and confirming
16 the contract and decreeing and adjudging it to be lawful, valid, and
17 binding on the Contractor. The Contractor shall furnish to the United
18 States a certified copy of such decree and of all pertinent supporting
19 records.

1 IN WITNESS WHEREOF, the parties have executed this contract
2 the day and year first above written.

3 THE UNITED STATES OF AMERICA

4 By B. E. Martin
5 Regional Director, Mid Pacific Region
6 Bureau of Reclamation

7 DUNNIGAN WATER DISTRICT

8 (SEAL)

9 By Clifford B. Johnson
10 President

11 Attest:

12 Frank M. Lopez
13 Secretary

DUNNIGAN WATER DISTRICT

Resolution No: 75-(8)

WHEREAS, the Dunnigan Water District through its Board of Directors has negotiated a contract with the United States for the construction of a water distribution system for said district, and said contract was on July 25, 1975 approved by the Districts Securities Division of the State Treasurer's office of the State of California, was submitted to the landowners of the district at a special election held on Tuesday, November 4th, 1975 at which time said voters approved said contract, there being 2,748,543 "yes" votes and 260,740 "no" votes; and

WHEREAS, the directors may now lawfully sign a contract with the United States Government for the construction of said distribution system, and

WHEREAS, it is the desire of these directors to execute said contract on behalf of said district,

NOW, THEREFORE, BE IT RESOLVED:

(1) That the President Clifford E. Johnson and Secretary Frank Lopez be, and they are hereby, authorized and directed to execute for the Dunnigan Water District that certain contract designated as WFO Draft 4/3-1973, Rev. R.O. 10/15-1973 and entitled "Contract Between the United States of America and Dunnigan Water District Providing for construction of a Distribution System";

PASSED AND ADOPTED at a meeting of the Board of Directors of the Dunnigan Water District on November 19, 1975, by the following vote:

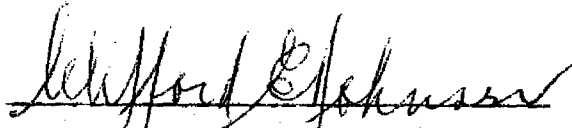
- 1 -

R. P. MILLSAP
PERSON, INC.
ATTORNEYS AT LAW
WOODLAND, CALIF.
RUSSELL MILLSAP
ROBERT R. MILLSAP, JR.
ANDREW THOMPSON, JR.

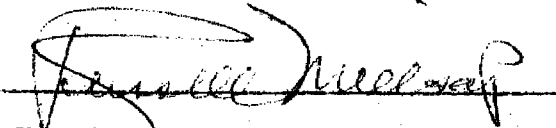
1 AYES: Directors. Dr. Clifford E. Johnson, J. J.
2 McAravy, Frank McCullough, and Frank M. Lopez.

3 NOES: None

4 ABSENT: Preston D. Allen

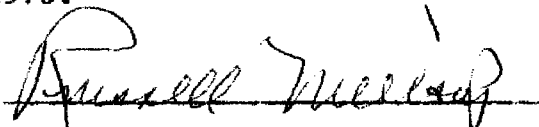
5 
6 CLIFFORD E. JOHNSON, President

7 ATTEST:


8 
9
10 RUSSELL MILLSAP, Assistant Secretary

11
12 I, RUSSELL MILLSAP, the duly and regularly appointed
13 Assistant Secretary of the DUNNIGAN WATER DISTRICT, hereby
14 certify that the foregoing is a true, correct and exact copy
15 of a Resolution of the Board of Directors of the District, duly
16 and regularly passed and adopted at a regular meeting of the
17 said Board of Directors, at Dunnigan, California, on the 19th
18 day of November, 1975, the original of which is on file in
19 my office and duly and regularly entered in the official records
20 of proceedings of the Board of Directors of the DUNNIGAN WATER
21 DISTRICT.

22 Dated: December 5, 1975.

23 
24 RUSSELL MILLSAP, Assistant
25 Secretary

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27
28

MILLSAP
SON, INC.
ATTORNEYS AT LAW
WOODLAND, CALIF.
RUSSELL MILLSAP
ROBERT R. MILLSAP, JR.
ANDREW THOMPSON, JR.

TITLE 34 OF PUBLIC LAW 102-575

CENTRAL VALLEY PROJECT IMPROVEMENT ACT

CENTRAL VALLEY PROJECT – CALIFORNIA

REVISED INTERIM GUIDELINES:

RESTORATION FUND PAYMENTS AND CHARGES

OCTOBER 1993

United States Department of the Interior
Bureau of Reclamation
Mid-Pacific Region

**REVISED INTERIM GUIDELINES:
RESTORATION FUND PAYMENTS AND CHARGES
CENTRAL VALLEY PROJECT IMPROVEMENT ACT**

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ABSTRACT

Objective and Authority

To develop interim guidelines for the calculation, assessment, collection and crediting of payments and charges to be paid by Central Valley Project (Project) water and power beneficiaries as required by subsections 3404(c)(3), 3405(d), 3405(a)(1)(B), and 3406(c)(1), and Section 3407 of Title 34 of Public Law 102-575. The incremental revenues collected as a result of the requirement to pay these payments and charges shall constitute the Project Restoration Fund (hereafter referred to as the Restoration Fund) and are to be used by the Secretary of the Interior (Secretary) as required by Title 34.

The Restoration Fund

The Bureau of Reclamation has established the Restoration Fund account in which to deposit and record the receipt of monies appropriated by Congress to carry out the programs, projects, plans, and wildlife restoration, improvement and acquisition provisions of Title 34.

Deposits

All incremental revenues collected as a result of the requirement to pay Pre-Renewal Charges [subsection 3404(c)(3)], Tiered Water Rates [subsection 3405(d)], Transferred Water Rates [subsection 3405(a)(1)(B)], Friant Surcharges [subsection 3406(c)(1)], Municipal and Industrial Surcharges [subsection 3407(d)(2)(A)] (herein collectively referred to as the Non-Discretionary Payments), which are to be assessed and collected annually¹ by Reclamation, and all Non-Federal Contributions [subsection 3407(a)], if any, which are received to advance the specific purposes of Title 34, will be deposited into the Restoration Fund.

The other principal source of funds -- referred to in the Interim Guidelines as Restoration Payments [subsections 3407(c) and (d) (and sometimes referred to as Discretionary Payments)] -- cannot be collected, at least through fiscal year 1997, absent Congressional appropriations. If the total amount appropriated on an annual average basis by Congress following enactment of Title 34 does not equal \$50 million (October 1992 price levels), the Secretary shall -- as may be limited by the various provisions of subsection 3407(d) of Title 34 -- automatically impose Restoration Payments in each year thereafter sufficient to provide for the annual collection of \$50 million (October 1992 price levels). The later action will change the Restoration Payments from Discretionary Payments to Non-Discretionary Payments.

¹ Consistent with Title 34, Pre-Renewal Charges will not be assessed and collected until certain conditions are met. See Part C of these Interim Guidelines.

Diagram 1 illustrates the relative relationship of the Discretionary Payments, Non-Discretionary Revenues and Non-Federal Contributions, if any, to the Restoration Fund.

Authority to Use Funds

Restoration Funds to carry out the provisions of Title 34 are made available in two ways:

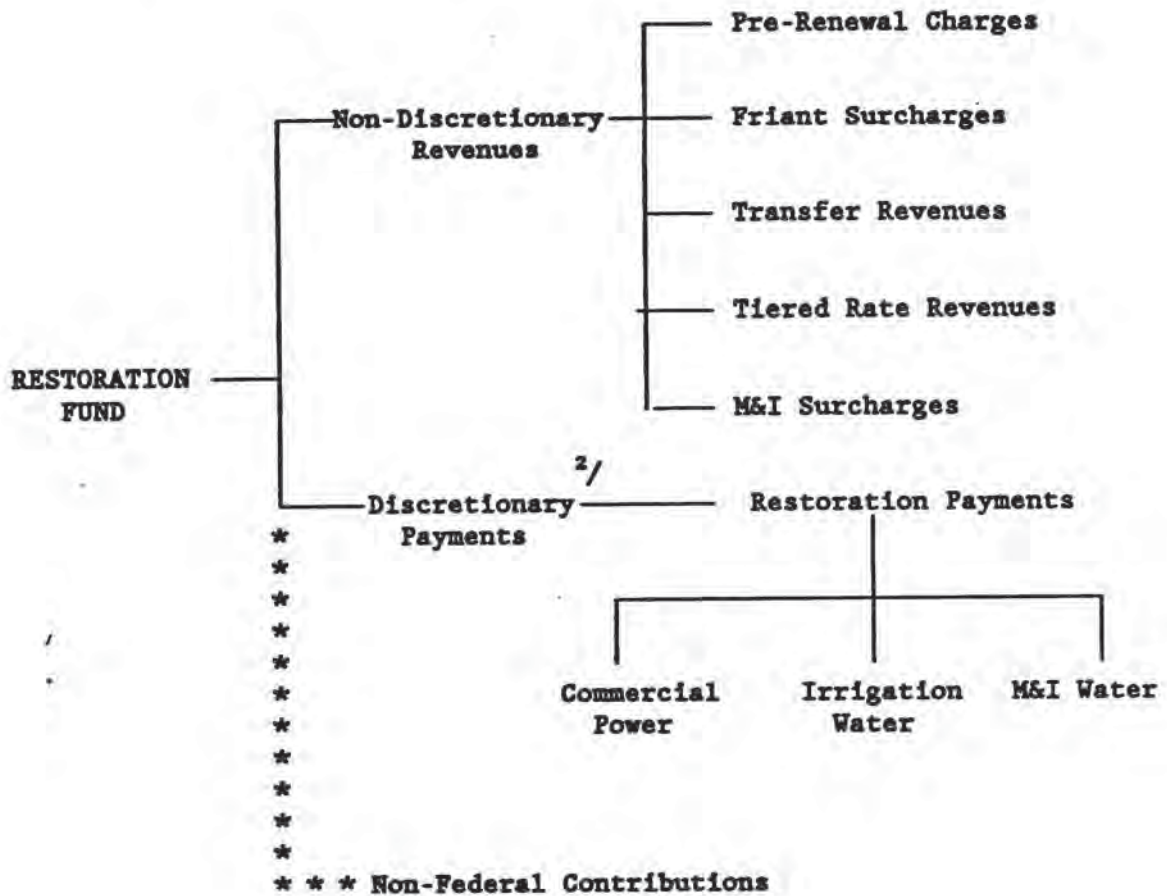
1. Non-Federal Contributions for a specific purpose are available for expenditure without Congressional action. These funds can only be expended for the expressed purposes of the contributions and, in contrast to the Discretionary Payments and Non-Discretionary Revenues, are not subject to appropriation.
2. All remaining funds (which can vary from \$0 to as much as \$50 million annually) (October 1992 prices) are made available by Congress through appropriations for use by the Secretary to carry out the provisions of Title 34.

All Non-Discretionary Revenues are automatically received and deposited into the Restoration Fund. However, these receipts cannot be used unless and until appropriated by Congress. At least through fiscal year 1997, the other source of Restoration Funds -- the Discretionary Payments -- are to be assessed and collected in response to, and to the extent required by, Congressional appropriations. Restoration Fund revenues do not need to be collected prior to expenditure by the Secretary, provided there is a reasonable expectation that the funds will be collected as provided in these Interim Guidelines in the subject fiscal year, and the applicable appropriations do not mandate advance collection.

Annually, the Secretary will develop a budget and request the appropriation of funds from the Restoration Fund for Title 34 activities. A portion of those funds will be derived from the projected collection of Non-Discretionary Revenues. Appropriate language will be included in the budget request to raise the remaining amount, if any, through assessment and collection of Discretionary Payments. However, at least through fiscal year 1997, the final amount of Restoration Fund collections and amounts to be made available, if any, from the Restoration Fund each year is the prerogative of the Congress and is to be decided through the appropriation process.

DIAGRAM 1

**REVENUES TO BE APPLIED TO THE RESTORATION FUND,
CENTRAL VALLEY PROJECT, TITLE 34, PUBLIC LAW 102-575**



***** = Voluntary

² The Restoration Payments will remain Discretionary Payments at least through fiscal year 1997. If annual appropriations following enactment of Title 34 do not equal \$50 million (October 1992 price levels), the Secretary shall impose Restoration Payments each year thereafter sufficient to collect annually \$50 million (October 1992 price levels). Under such circumstances, Restoration Payments become Non-Discretionary Payments.

PART A

DEFINITIONS

As used herein, the term:

1. "Act" means the Central Valley Project Improvement Act (CVPIA), Title XXXIV of Public Law 102-575, enacted October 30, 1992.
2. "Project" means the Central Valley Project, California.
3. "Secretary" means the Secretary of the Interior, or his designee.
4. "Project Water" means all water that is developed, diverted, stored or delivered by the Secretary in accordance with the statutes authorizing the Central Valley Project and in accordance with the terms and conditions of water rights acquired for the Central Valley Project pursuant to California law.
5. "Water Contractor" shall mean any entity or individual who is a party to a Water Service Contract, a Repayment Contract or a Water Rights Settlement Contract with the United States for a Project Irrigation and/or Municipal and Industrial Water supply, which may be supplemental to a non-Project water supply, pursuant to Section 9 of the Reclamation Project Act of 1939, as amended and supplemented.
6. "Irrigation Water" means Project Water to be used for agricultural purposes as set forth in the Water Contractor's Water Service, Repayment or Water Right Settlement Contract.
7. "Municipal and Industrial (M&I) Water" means Project Water to be used for other than agricultural purposes as set forth in the Water Contractor's Water Service, Repayment or Water Rights Settlement Contract.
8. "Repayment Contract" means a contract with the United States providing Project Water pursuant to subsections (c)(1) and/or (d) of Section 9 of the Reclamation Project Act of 1939.
9. "Water Service Contract" means a contract with the United States providing Project Water pursuant to subsections (c)(2) and/or (e) of Section 9 of the Reclamation Project Act of 1939, including Water Rights Settlement Contracts which provide for the delivery of supplemental Project Water.
10. "Warren Act Contract" means a contract with the United States providing for the storage and/or conveyance of non-Project Water in and/or through Project facilities pursuant to the Act of February 21, 1911 (Public Law

61-406), as supplemented by Section 305 of Public Law No. 102-250 and subsection 3408(c) of Public Law No. 102-575, between the United States and an entity .

11. "Water Rights Settlement Contract" means a contract with the United States providing a supply of Base Water pursuant to Section 14 of the Reclamation Project Act of 1939 (1939 Act) and probably but not necessarily a supplemental supply of Project Water pursuant to Section 9 of the 1939 Act, as amended and supplemented.
12. "Base Water" means the quantity of non-Project Water made available to a Water Contractor without payment to the United States and without application of the acreage limitation provisions of Federal reclamation law as specified in a Water Rights Settlement Contract with the United States,
13. "Exchange Water" means the Project Water made available during each year to the Exchange Contractors pursuant to the Exchange Contracts without payment to the United States and without application of the acreage limitation provisions of Federal Reclamation law.
14. "Exchange Contract" means a contract with the United States entered into pursuant to Section 14 of the Reclamation Project Act of 1939, as amended and supplemented, providing a supply of Project Water to an Exchange Contractor in lieu of the Exchange Contractor exercising certain rights to the use of other waters.
15. "Exchange Contractors" means the entities or individuals who are parties to an Exchange Contract with the United States for an Exchange Water supply pursuant to Section 14 of the Reclamation Project Act of 1939, as amended and supplemented.
16. "Additional Project Water" means that Project Water made available by the United States to a Water Contractor in a given year which is in excess of the maximum total quantity of Project Water specified in the long-term Water Service, Repayment or Water Rights Settlement Contract with the Water Contractor.
17. "Flood Water" means a temporary Project Water supply made available to a Water Contractor as a result of an unusually large water supply not otherwise storable for Project purposes or infrequent and otherwise unmanageable flood flows of short duration.
18. "Delivered Project Water" means all Project Water scheduled by the Water Contractors or Exchange Contractors for delivery by the United States , consistent with the terms of the applicable contract and made available by the United States at the approved point(s) of delivery, less that Project Water which is not diverted but remaining under the physical control of the Project (e.g., in a Project canal).
19. "Section 215 Water" means Flood Water made available to the Water Contractor for agricultural purposes without application of the acreage

limitations and/or the full-cost provisions of Federal reclamation law pursuant to a contract with the United States. [See 43 CFR Section 426.13(a)(3).1]

20. "Cost of Service Water Rate" means the annual charge for Irrigation Water and M&I Water established pursuant to the then applicable Project Water ratesetting policy which will recover all costs assigned to the Irrigation and M&I Water supply functions, respectively, within the established repayment period..
21. "Irrigation Full Cost Rate" means the annual charge described in paragraph (3) of Section 202 of the Reclamation Reform Act of 1982 (RRA), which, as determined by the Secretary, amortizes the expenditures for construction allocable to Project irrigation facilities in service, including all operation and maintenance (O&M) deficits funded, less payments, over such periods as may be required under Federal reclamation law or applicable contract provisions, with interest on both accruing from October 12, 1982, on costs outstanding at that date, or from the date incurred in the case of costs arising subsequent to October 12, 1982.
22. "M&I Full Cost Rate" means the annual charge described in paragraph (3) of Section 202 of the RRA, which, as determined by the Secretary, shall amortize the expenditures for construction allocable to M&I facilities in service, including all operation and O&M deficits funded, less payments, over such periods as may be required under Federal reclamation law or applicable contract provisions, with interest on both accruing from the dates such costs were first incurred.
23. "Non-Discretionary Payments" means those payments and charges required by the Act to be assessed and collected by the Secretary independent of the level of Congressional appropriations relative to the Central Valley Project Restoration Fund.
24. "Non-Discretionary Revenues" means those incremental revenues which are accrued as a result of the annual collection of the Non-Discretionary Payments required by the Act and which exceed the amounts that would have been collected in the absence of the requirement to pay the Non-Discretionary Payments.
25. "Discretionary Payments" means those payments and charges required by the Act to be assessed and collected by the Secretary as may be required by Congress through the annual appropriations process.³

³ "Discretionary Revenues" are the same as "Discretionary Payments" as 100 percent of the Discretionary Payments are to be credited to the Restoration Fund. Accordingly, there is no need to include a definition of "Discretionary Revenues."

26. "Transfer Revenue" means that portion of the Transferred Water Rate as described in Part E of the Interim Guidelines which is in excess of the Water Contractor's Cost of Service Water Rate, if applicable, and is to be credited to the Restoration Fund in the absence of the requirement to pay the Irrigation Full Cost Rate pursuant to the RRA.
27. "Ability to Pay" is that portion of the increased net farm income attributable to the off farm water supply (supplies) after allowances have been made for returns to farm investment and to family labor and management.

PART B

DEPOSITS TO THE RESTORATION FUND

[Subsection 3407(a)]

1. Revenues to be Deposited

The Restoration Fund shall serve as the depository in the Treasury of the United States for all revenues received by the Secretary from the following sources:

- a. **Pre-Renewal Charges** [subsection 3404(c)(3)] - Described in Part C of these Interim Guidelines
- b. **Tiered Water Revenues** [subsection 3405(d)] - Described in Part D of these Interim Guidelines
- c. **Transfer Revenues** [subsection 3405(a)(1)(B)] - Described in Part E of these Interim Guidelines
- d. **Friant Surcharges** [subsection 3406(c)(1)] - Described in Part F of these Interim Guidelines
- e. **M&I Surcharges** [subsection 3407(d)(2)(A)] - Described in Part G of these Interim Guidelines
- f. **Restoration Payments** [subsection 3407(c) & (d)] - Described in Part H of these Interim Guidelines
- g. **Non-Federal Contributions** [subsection 3407(a)] - Described in Part J of these Interim Guidelines

All interest and penalty charges collected for delinquent payment of Restoration Fund payments and charges required by this Act shall be deposited to the Restoration Fund, but will not be credited to the Water Contractor or Power. All administrative charges collected for past due payment of Restoration Fund charges and payments shall be deposited to the Treasury of the United States without credit to the Water Contractor or Power.

2. Contractor Accounts

On behalf of the Secretary, Reclamation shall keep accounts of all payments deposited in the Restoration Fund on behalf of each Water Contractor and of the total payments received from Power. Deposits to the Restoration Fund which are used to pay for the projects, studies or facilities set forth in subsection 3406(b)⁴ of the Act shall offset an equal amount of the Water Contractors' or Power's assigned repayment obligations resulting from the implementation of any activities described in the Act.

⁴ Many subsection 3406(b) activities are wholly or partially reimbursable. Costs assigned to the reimbursable functions, including power and water, are to be allocated and recovered consistent with conventional Reclamation law and policy. Construction costs are usually capitalized through the power and water rates. In the event Restoration Funds are used to "upfront finance" subsection 3406(b) activities, the CVPIA requires that all amounts so used be immediately credited to the Water Contractors and Power.

PART C

PRE-RENEWAL CHARGES

[Subsection 3404(c)(3)]

1. Applicability

Beginning on October 1, 1997, or January 1 following the calendar year of completion of the programmatic environmental impact statement (PEIS) required by Section 3409 of the Act, whichever occurs first, all Water Contractors having an existing Water Service, Repayment or Water Rights Settlement Contract which was in effect on October 30, 1992, excepting those Water Contractors specifically exempted as described below, shall be assessed annually a pre-renewal mitigation and restoration payment (hereafter referred to as Pre-Renewal Charges) for each acre-foot of Delivered Project Water.

For the purposes of applying the Pre-Renewal Charges, Project Water shall include any Project Water provided under a Water Rights Settlement Contract, Additional Project Water, and/or Project Water transferred to a transferee(s) pursuant to an approved transfer. Such assessments shall cease on the effective date of renewal of the Water Service, Repayment or Water Rights Settlement Contract.

Water Contractors shall not be assessed Pre-Renewal Charges if one of the following conditions is met:

- a. The Water Contractor's existing Water Service, Repayment or Water Rights Settlement Contract was renewed between January 1, 1988, and October 30, 1992, or;
- b. If the PEIS is not completed by October 1, 1997, and prior to that date the Water Contractor enters into a binding agreement with the United States to renew the existing Water Service, Repayment or Water Rights Settlement Contract immediately upon completion of the PEIS and all other documentation as may be required by the National Environmental Policy Act.

Pre-Renewal Charges are not applicable to Base Water, Exchange Water, Section 215 Water, Flood Water, or Warren Act Contract water.

2. Rescheduled Water⁵

With the exception of Water Contractors specifically exempt from Pre-Renewal Charges as provided above, Pre-Renewal Charges will be applicable under certain circumstances to Project Water which is rescheduled from one water year (e.g., water year X) to a later water year (e.g., water year X+1). Because the Act applies Pre-Renewal Charges only to Delivered Project Water, rescheduled Project Water which is delivered to a Water Contractor or a transferee pursuant to an approved transfer following the effective date of application of the Pre-Renewal Charges shall be assessed Pre-Renewal Charges at the rate applicable to the Water Contractor in the year of actual delivery (e.g., year X+1).

3. Banking of Transferred Water

In those instances when transferred Project Water is banked with an intermediary (third) party for the principal purpose of providing a future water supply⁶ to the transferee, the water shall be treated as Delivered Project Water upon delivery to the intermediary and not when withdrawn from the bank. The Pre-Renewal Charges shall be those in effect in the year of delivery to the intermediary.

4. Payments

The Pre-Renewal Charge shall equal one and one-half times the Restoration Payments applicable to the Water Contractor for Irrigation and/or M&I Water as described in Part H of these Interim Guidelines.

Pre-Renewal Charges must be paid to the United States by the Water Contractor prior to the effective date of renewal of the Water Contractor's existing Water Service or Repayment Contract.

5. Type of Water Use

For the purpose of applying Pre-Renewal Charges to Project Water, the type of Project Water use (Irrigation or M&I) and the resulting rate to be paid shall be consistent with the actual use of such water by the Water Contractor or a transferee(s) pursuant to an approved transfer. In those instances when the Project Water is banked with an intermediary for the principal purpose of providing a future water supply to a transferee, the type of water shall be consistent with the ultimate intended use by the transferee consistent with the applicable transfer agreement.

⁵ All proposals to reschedule Project Water to a later water year must be approved by Reclamation.

⁶ The future water supply may be accomplished through a water exchange.

6. Relationship to Other Payments and Surcharges

Pre-Renewal Charges shall be paid by the Water Contractor (the transferor) in addition to any other applicable payments or charges as required by the Act and other applicable provisions of Federal reclamation law (hereafter referred to as reclamation law). Transferees are not responsible for payment to the United States of Pre-Renewal Charges.

7. Revenues to be Credited to the Restoration Fund

All Pre-Renewal Charges shall be credited to the Restoration Fund described in Part B of these Interim Guidelines.

PART D

TIERED WATER RATES

[Subsection 3405(d)]

1. Applicability

New, renewed and amended Water Service, Water Rights Settlement or Repayment Contracts which are executed after October 30, 1992, and which have a term longer than three years are subject to the Tiered Water Rate provisions of the Act. Pursuant to such contracts, Tiered Water Rates shall be applied to all Delivered Project Water, including that provided under a Water Rights Settlement Contract, Additional Project Water and Project Water transferred pursuant to an approved transfer.

Tiered Water Rates shall not be applied to Base Water, Exchange Water, Section 215 Water, Flood Water, Warren Act Contract water; or to Project Water used to produce a crop that the Secretary determines, in writing, provides significant and quantifiable waterfowl habitat in the fields where the water is used and the crops are produced, provided such deliveries are made and used consistent with the terms of a binding agreement to be signed by the Water Contractor, the participating landholder(s), and the United States.

Project Water not subject to Tiered Water Rates shall be paid for at the rate otherwise applicable to such water.

2. Calculation and Application of Tiered Water Rates

Tiered Water Rates shall be computed annually by Reclamation consistent with the following criteria:

- a. First Tier: Up to and including the first 80 percent of the Water Contractor's maximum combined contractual Project Water entitlement (including Irrigation, M&I, Class 1, and Class 2 Water, if any; but excluding Base, Exchange, Flood, Section 215, and Warren Act Contract water, if any) shall be paid for by the Water Contractor at the applicable contract water rate(s).
- b. Second Tier: Water in excess of 80 percent and up to and including 90 percent of the Water Contractor's maximum combined contractual Project Water entitlement shall be paid for by the Water Contractor at the following applicable rates:
 - (1) Irrigation Water: a rate equal to the average of the otherwise applicable contract rate for Irrigation Water and the applicable Irrigation Full Cost Rate.

- (2) M&I Water: a rate equal to the average of the otherwise applicable contract rate for M&I Water and the applicable M&I Full Cost Rate.
- c. Third Tier: Water in excess of 90 percent of the Water Contractor's maximum combined contractual Project Water entitlement, if any, shall be paid for by the Water Contractor at the applicable Full Cost Rate.

Irrigation Full Cost Rates are calculated pursuant to the applicable provisions of the RRA. The Irrigation Full Cost Rates include components to recover applicable operation and maintenance (O&M) costs, accumulated deficits, capital costs, and interest on unpaid capital costs. Irrigation Full Cost Rates are computed to recover O&M costs within the year incurred; accumulated deficits within the authorized repayment period; and capital costs amortized at the applicable RRA interest rate over the remaining repayment period.

M&I Full Cost Rates are calculated pursuant to a similar procedure to that used for computing the Irrigation Full Cost Rates.

Consistent with the above, a Water Contractor shall not be subject to the Second and Third Tier water rates if the cumulative total of all Project Water delivered to the Water Contractor and/or a transferee(s) in a given contract year equals 80 percent or less of the Water Contractor's maximum combined contractual Project Water entitlement.

Pursuant to these Interim Guidelines, all Additional Project Water, if any, but excepting that providing significant and quantifiable waterfowl habitat, shall be charged at the applicable Third Tier rate.

3. Rescheduled Water⁷

Tiered Water Rates will be applicable under certain circumstances to that Project Water which is rescheduled for delivery from one water year (e.g., water year X) to a later water year (e.g., water year X+1). Because the Act applies Tiered Water Rates only to Project Water actually delivered, rescheduled Project Water is not subject to Tiered Water Rates unless and until delivered to the Water Contractor or a transferee(s) pursuant to an approved transfer, provided the subject Water Contractor is subject at the time of delivery to Tiered Water Rates consistent with the above Applicability provisions (subsection 1 of Part D).

The applicable Tiered Water Rates shall be those in effect in the year of actual delivery (e.g., water year X+1). However, the Second and Third Tier rates shall be applied only if the amount of rescheduled water delivered in

⁷ All proposals to reschedule the delivery of Project Water to a later water year must be approved by Reclamation.

the later year (e.g., water year X+1) when added to the Project Water otherwise delivered in the later water year exceeds 80 and 90 percent, respectively, of the maximum contractual entitlement applicable in the later water year (e.g., water year X+1).

4. Banking of Transferred Water

In those instances when transferred Project Water is banked with an intermediary (third) party for the principal purpose of providing a future water supply to the transferee, the water shall be regarded as Delivered Project Water when delivered to the intermediary party and not when withdrawn from the bank.

5. Type of Water Use

For the purpose of applying Tiered Water Rates to Project Water transferred pursuant to the Act, the type of water use (Irrigation or M&I) and the rate to be paid shall be consistent with the actual use of the water by the Water Contractor or by the transferee. In those instances when the Project Water is banked with an intermediary for the principal purpose of providing a future water supply to a transferee, the type of water shall be consistent with the ultimate intended use by the transferee consistent with the applicable transfer agreement.

6. Determination of Tiered Water Rate Threshold Percentages

Reclamation's water delivery records, which document the monthly and cumulative quantities of Delivered Irrigation and M&I Project Water, shall be used to determine the water deliveries, if any, in excess of 80 and 90 percent of the maximum combined contractual entitlement.

7. Payments Due, Late Payments and Adjustments

Tiered Water Rates shall be paid in accordance with the payment terms included in the Water Contractor's then existing Water Service or Repayment Contract. Similarly, specifics regarding past due payment of Tiered Water Rates shall be accomplished in a manner consistent with the terms included in the Water Contractor's then existing Water Service or Repayment Contract.

Transferees are not responsible for payment to the United States of the Tiered Water Rates which may be applicable to Project Water transferred into their respective service areas.

8. Relationship to Other Payments and Surcharges

The responsibility of the Water Contractor to pay the applicable Tiered Water Rates as described above shall be in addition to all other payments required by the Act and other applicable provisions of reclamation law.

In the event Project Water is concurrently subject to a Tiered Water Rate, a Full Cost Rate under the RRA and/or a Transferred Water Rate (see Part E of these Interim Guidelines), the Water Contractor shall be required to pay the higher (highest) of the applicable rates. (The application of this procedure is shown in the examples included in Appendix A).

9. Revenues to be Credited to the Restoration Fund

All revenues received over and above what would otherwise have been collected as a result of the application of the Tiered Water Rates (hereinafter referred to as Tiered Rate Revenues) shall be credited to the Restoration Fund as provided in Part B of these Interim Guidelines. In the absence of the requirement to pay the Irrigation Full Cost Rate pursuant to the RRA, Tiered Rate Revenues shall consist of those revenues which exceed the Water Contractor's assigned Cost of Service Rate(s).⁶ No Tiered Rate Revenues shall be deposited or credited to the Restoration Fund for water otherwise subject to the Irrigation Full Cost Rate provisions of the RRA.

10. Requests for Waterfowl Habitat Exemption

The Water Contractor is responsible for submitting formal requests and necessary documentation for consideration for an exemption from Tiered Water Rates based upon waterfowl habitat value. (Criteria for waterfowl habitat exemption are to be developed by the United States Fish and Wildlife Service.)

⁶ In the event the Water Contractor is subject to both the Transferred Water Rate and Tiered Water Rate provisions of this Act (but not the Irrigation Full Cost Rate), the total credited amount of Tiered Rate Revenues and Transfer Revenues per acre-foot shall not exceed the absolute difference between the highest rate required to be paid and the Cost of Service Rate.

PART E

TRANSFERRED WATER RATES

[Subsection 3405(a)(1)(B)]

1. Applicability

All Project Water, including Class 1 Water, Class 2 Water, and Project Water provided pursuant to a Water Rights Settlement Contract, which is transferred pursuant to the transfer provisions of the Act from a Water Contractor to an entity (transferee) which was not a Water Contractor on October 30, 1992,⁹ and is used by the transferee as:

- a. Irrigation Water shall be paid for by the Water Contractor at the Full Cost Rate applicable to the Water Contractor.
- b. M&I Water shall be paid for by the Water Contractor at the M&I water rate applicable to the Water Contractor as determined by Reclamation consistent with the then current Project M&I ratesetting policy and applicable reclamation law.

All Exchange Water which is transferred pursuant to the transfer provisions of the Act from an Exchange Contractor to an entity (transferee) which was not a Water Contractor on October 30, 1992, and is used by the transferee as:

- a. Irrigation Water shall be paid for by the Exchange Contractor at the Full Cost Rate which would be applicable to the Exchange Contractor if required to pay for Project water consistent with the then current Project irrigation ratesetting policy and applicable reclamation law.
- b. M&I Water shall be paid for by the Exchange Contractor at the M&I rate which would be applicable to the Exchange Contractor if required to pay for Project water consistent with the then Project M&I ratesetting policy and applicable reclamation law.

Irrigation and M&I Full Cost Rates applicable to the Exchange Contractors are to be calculated similarly to those computed for Water Contractors. Unlike Water Contractors, there are no surpluses or deficits applicable to the yearly

⁹ Entities which held short-term or interim Water Service Contracts in effect on October 30, 1992, without a right of renewal may be a recipient of transferred Project Water pursuant only to the authority of Section 3405 of the CVPIA. Such entities do not qualify for within-Project ("Contractor to Contractor") transfers following expiration of the Water Service Contract in effect on October 30, 1992.

Project water operations performed on the behalf of the Exchange Contractors. Accordingly, surpluses or deficits are not reflected in Irrigation or M&I Full Cost Rates applicable to Exchange Contractors.

The Transferred Water Rates described above do not include charges for additional Project services, if any, which may be needed to effectuate a transfer from a Water Contractor or an Exchange Contractor to a transferee. Charges for such additional Project services shall be computed based on the specific circumstances of the proposed transfer.

The Transferred Water Rates are not applicable to Base Water or Warren Act Contract deliveries. In addition, transfers of Project Water between entities qualifying as Project Water Contractors on October 30, 1992,¹⁰ are not subject to the Transferred Water Rate provisions of the Act.

2. Rescheduled Water¹¹

Transferred Water Rates are applicable to Project Water which is rescheduled from one water year to a later water year and delivered pursuant to an approved transfer agreement with the United States to a transferee which was not a Water Contractor on October 30, 1992. Because the Act applies Transferred Water Rates only to Project Water actually delivered, rescheduled Project Water is not subject to Transferred Water Rates until physically delivered to such a transferee. Water which is rescheduled from one water year and delivered in a later water year (e.g., water year X+1) to a transferee shall be subject to the Water Contractor's applicable Transferred Water Rates in effect in the year of delivery (e.g., water year X+1).

3. Banking of Transferred Water

In those instances when transferred Project Water is banked with an intermediary (third) party for the principal purpose of providing a future water supply to the transferee, the water shall be regarded as Delivered Project Water upon delivery to the intermediary and not when withdrawn from the Bank.

4. Type of Water Use

For the purpose of administering the Transferred Water Rate provisions of the Act, the manner in which Project Water is used (as Irrigation Water or M&I Water) and the resulting rate to be paid shall be consistent with the actual use of such water by the transferee(s). In those instances when Project Water

¹⁰ See footnote 9.

¹¹ All proposals to reschedule water to a later water year must be approved by Reclamation.

is banked with an intermediary, the type of water use shall be consistent with the ultimate intended use by the transferee consistent with the applicable transfer agreement.

5. Payments Due, Delinquent Payments and Adjustments

- a. **Water Contractors.** The Water Contractor (the transferor) is responsible for full payment of all applicable Transferred Water Rates for Project Water transferred by the Water Contractor pursuant to the transfer provisions of the Act.

Notwithstanding any requirements for the advance payment for Project Water as may be required by the applicable Water Service or Repayment Contract, the total amount of Transferred Water Rate payments, if any, owed for Project Water delivered to a transferee(s) or an intermediary is due and payable by the Water Contractor by the end of the month following the month of delivery. Such amounts shall be consistent with the quantities of Project Irrigation and M&I Water shown in Reclamation's water delivery report for the subject month. The water delivery report shall be regarded by the Water Contractor as a bill for all Transferred Water Rate payments.

Any adjustments for overpayment or underpayment shall be accomplished through the adjustment of Transferred Water Rate payments or other charges due to the United States relative to the subject Water Service or Repayment Contract and payable in the next month.

Past due payment of Transferred Water Rates shall be accomplished in a manner consistent with the past due terms included in the Water Contractor's then existing Water Service or Repayment Contract.

- b. **Exchange Contractors.** The Exchange Contractors are responsible for full payment of all Transferred Water Rates for Exchange Water transferred pursuant to the transfer provisions of the Act. The total amount of Transferred Water Rate payments, if any, owed for water delivered to a transferee(s) or an intermediary is due and payable by the Exchange Contractor by the end of the month following the month of delivery. Such amounts shall be consistent with the quantities of Project Irrigation and M&I Water shown in Reclamation's water delivery report for the subject month. The water delivery report shall be regarded by the Exchange Contractor as a bill for all Transferred Water Rate payments.

Any adjustments for overpayment or underpayment shall be accomplished through the adjustment of Transferred Water Rate payments due to the United States relative to the subject Exchange Contract and payable in the next month. In the absence of such future payments in the next month, overpayment shall be refunded to the Exchange Contractor.

Specifics regarding past due payment of Transferred Water Rates shall be accomplished in a manner consistent with the terms included in Appendix B herein.

c. Transferees. Transferees are not responsible for payment to the United States of Transferred Water Rates which may be applicable to Project Water transferred into their respective service areas.

6. Relationship to Other Payments and Surcharges

The responsibility of the Water Contractor or Exchange Contractor to pay the applicable Transferred Water Rates as described above shall be in addition to all other payments required by the Act and other applicable provisions of reclamation law.

In the event Project Water is concurrently subject to the Transferred Water Rate provisions of this Act, an Irrigation Full Cost Rate as required by the RRA and/or a Tiered Water Rate (see Part D of these Interim Guidelines), the Water Contractor or Exchange Contractor shall pay the higher (highest) of the applicable rates. (The application of this procedure is shown in the examples included in Appendix A).

7. Revenues to be Credited to the Restoration Fund

In the absence of the requirement to pay the applicable Irrigation Full Cost Rate pursuant to the RRA, all Transferred Water Rate payments in excess of the Water Contractor's Cost of Service Rate (hereafter referred to as Transfer Revenues) shall be calculated and credited by Reclamation to the Restoration Fund.¹²

In the absence of the requirement to pay the applicable Irrigation Full Cost Rate pursuant to the RRA, Transferred Water Rate payments required to be made for the transfer of Exchange Contractor water to an entity which was not a Water Contractor on October 30, 1992, shall be deposited in full to the Restoration Fund.

No Transfer Revenues shall be deposited or credited to the Restoration Fund for Project Water otherwise subject to the Irrigation Full Cost Rate provisions of the RRA as such revenues shall be credited in the normal manner for RRA receipts.

¹² In the event the Water Contractor is subject to both the Transferred Water Rate and Tiered Water Rate provisions of this Act (but not the Irrigation Full-Cost Rate), the total credited amount of Tiered Rate Revenues and Transfer Revenues per acre-foot shall not exceed the absolute difference between the highest rate required to be paid and the cost-of-service rate.

PART F

FRIANT SURCHARGES

[Subsection 3406(c)(1)]

1. Applicability

Beginning on October 31, 1992, all Water Contractors who receive Project Water from the Friant Division pursuant to a Water Service, Water Rights Settlement or Repayment Contract shall pay to the United States the applicable Friant Surcharge for each acre-foot of Delivered Project Water, including Class 1 and Class 2 Water; Flood Water used for M&I purposes; Section 215 Water; Additional Project Water; Project Water provided pursuant to a Water Rights Settlement Contract; and/or Project Water delivered to a transferee(s) pursuant to an approved transfer(s).

The Friant Surcharges shall continue until such time as flows of sufficient quantity, quality and timing are provided at or below Gravelly Ford to meet the anadromous fishery needs of the San Joaquin River identified in a plan to be developed by the Secretary and approved by an act of Congress.

Friant Surcharges are not applicable to Warren Act Contract or Base Water deliveries.

2. Rescheduled Water¹³

Friant Surcharges are applicable to Project Water which is released from Friant Division facilities and rescheduled from one water year (e.g., water year X) and delivered in a later water year (e.g., water year X+1). Because the Act applies Friant Surcharges only to Project Water actually delivered, rescheduled Project Water which is delivered to a Water Contractor, a transferee or intermediary on behalf of the transferee shall be subject to Friant Surcharges applicable to the Water Contractor in the year of actual delivery (e.g., year X+1).

3. Banking of Transferred Water

In those instances when transferred Friant Division Project Water is banked with an intermediary (third) party for the principle purpose of providing a future water supply to the transferee, the water shall be treated as Delivered

¹³ All proposals to reschedule Project Water to a later water year must be approved by Reclamation.

Project Water upon delivery to the intermediary party and not when withdrawn from the Bank. The Friant Surcharges shall be those in effect in the year of delivery to the intermediary.

4. The Friant Surcharges

The Friant Surcharges shall be: (a) \$4.00 per acre-foot of Delivered Project Water before or on September 30, 1997; (b) \$5.00 per acre-foot of Delivered Project Water after September 30, 1997, and through September 30, 1999; and (c) \$7.00 per acre-foot for all Delivered Project Water thereafter.

5. Payments Due, Delinquent Payments, and Adjustments

The Water Contractor is responsible for full payment of all Friant Surcharges for Project Water delivered to the Water Contractor, or a transferee or intermediary pursuant to an approved transfer. The total amount of Friant Surcharges is due and payable by the Water Contractor by the end of the month following the month of delivery. Such amounts shall be consistent with the quantities of Project Water shown in Reclamation's water delivery report for the subject month. The water delivery report shall be regarded by the Water Contractor as a bill for all Friant Surcharge payments.

Any adjustments for overpayment or underpayment shall be accomplished through the adjustment of Friant Surcharges or other charges due to the United States relative to the subject Water Service or Repayment Contract and payable in the next month.

The amount to be paid for past due payment of the Friant Surcharges shall be computed in a manner consistent with the terms included in the Water Contractor's then existing Water Service or Repayment Contract.

Transferees are not responsible for payment to the United States of Friant Surcharges applicable to Project Water transferred to them for their use.

6. Relationship to Other Payments and Surcharges

The responsibility of the Water Contractor to pay Friant Surcharges as described above shall be in addition to all other charges required by this Act and other applicable reclamation law.

7. Revenues to be Credited to the Restoration Fund

All Friant Surcharge Revenues shall be credited to the Restoration Fund described in Part B of these Interim Guidelines.

PART G

M&I SURCHARGES

[Subsection 3407(d)(2)(A)]

1. Applicability

Reclamation shall assess and collect an annual charge, hereafter referred to as the M&I Surcharge, for all Project Water which is used for M&I purposes and:

- a. Sold by the United States pursuant to a new Water Service, Water Rights Settlement or Repayment Contract to an entity which was not a Water Contractor prior to October 31, 1992,¹⁴ or
- b. Transferred by an existing¹⁵ Water Contractor or Exchange Contractor to an entity which was not a Water Contractor prior to October 31, 1992.¹⁴

The M&I Surcharge shall be paid in addition to the Transferred Water Rates which may be applicable to Project Water transferred for M&I purposes pursuant to the Act (See Part E of these Interim Guidelines.)

For the purposes of administering the M&I Surcharge, Project Water shall include Class 1 and Class 2, Flood, Section 215, Exchange, Project Water provided by a Water Rights Settlement Contract, and/or Additional Project Water, if any.

The M&I Surcharge is not applicable to Base Water or Warren Act Contract deliveries.

2. Rescheduled Water¹⁶

M&I Surcharges are applicable to Project Water which is rescheduled by an existing Water Contractor from one water year (e.g., water year X) to a later water year (e.g., water year X+1) and ultimately delivered to a transferee for

¹⁴ For the purposes of applying M&I Surcharges, entities which held only short-term or interim Water Service Contracts prior to October 31, 1992, without right of renewal, are regarded as not having been a Water Contractor prior to October 31, 1992.

¹⁵ "Existing" shall mean having the status of a Water Contractor or Exchange Contractor on October 30, 1992.

¹⁶ All proposals to reschedule water to a later water year must be approved by Reclamation.

use as M&I water pursuant to an approved transfer agreement. Similarly, any rescheduled Project Water which is provided by the United States pursuant to a new Water Service or Repayment Contract to an entity which was not a Water Contractor prior to October 31, 1992, and used for M&I purposes is subject to M&I Surcharges. The M&I Surcharges shall be applicable in the year of delivery of the rescheduled water. The M&I Surcharges shall be those in effect in the year of actual delivery (e.g., water year X+1).

3. Banking of Transferred Water

In those instances when transferred Project Water is banked with an intermediary (third) party for the principal purpose of providing a future water supply to the transferee, the water shall be regarded as delivered to the transferee upon delivery to the intermediary and not when withdrawn from the Bank. All transferred Project Water which is banked with an intermediary shall be treated as M&I Water if the ultimate intended use by the transferee is for M&I purposes consistent with the applicable transfer agreement.

4. The M&I Surcharge

The M&I Surcharge shall be \$25.00 (October 1992 price levels) per acre-foot of Delivered Project Water. The M&I Surcharge shall be adjusted annually by Reclamation solely to reflect fluctuations in costs as projected by the Office of the Management and Budget for use in developing Reclamation's annual budgets (hereafter referred to as OMB escalation factors).

5. Payment Due, Delinquent Payments and Adjustments

Relative to new Water Service, Water Rights Settlement or Repayment Contracts, the M&I Surcharge shall be the repayment responsibility of the Water Contractor. Pursuant to a water transfer, the M&I Surcharge shall be the repayment responsibility of the applicable Water Contractor or Exchange Contractor (the transferor).

Relative to new contracts, the total amount of M&I Surcharges, if any, owed by the Water Contractor for water diverted by the Water Contractor, a transferee(s), or an intermediary party, is due and payable by the end of the month following the month of delivery. Such amounts shall be consistent with the quantities of Project M&I Water shown in Reclamation's water delivery report for the subject month. The water delivery report shall be regarded by the Water Contractor as a bill for all M&I Surcharge payments.

Pursuant to a water transfer, the total amount of M&I Surcharges, if any, owed by the Water Contractor or Exchange Contractor for water diverted by an transferee or an intermediary, is due and payable by the end of the month following the month of delivery. Such amounts shall be consistent with the quantities of Project M&I Water transferred as shown in Reclamation's water

delivery report for the subject month. The water delivery report shall be regarded by the Water Contractor or Exchange Contractor as a bill for the M&I Surcharges.

Any adjustments for overpayment or underpayment shall be accomplished through the adjustment of M&I Surcharges or other charges due to the United States relative to the subject water service or repayment contract and payable in the next month. In the absence of any additional imminent repayment obligations to the United States by the Exchange Contractor, any overpayment shall be refunded to the Exchange Contractor.

The amount to be paid for past due payment of M&I Surcharges by Water Contractors shall be computed in a manner consistent with the terms included in the Water Contractor's then existing Water Service, Water Rights Settlement or Repayment Contract. The amount to be paid for past due payment of M&I Surcharges by Exchange Contractors shall be computed consistent with the provisions of Appendix B as included herein.

Transferees are not responsible for payment to the United States of the M&I Surcharges applicable to Project Water transferred to them.

6. Relationship to Other Payments and Surcharges

The responsibility of the Water Contractor or Exchange Contractor to pay the M&I Surcharge is in addition to all other charges required by this Act and other applicable reclamation law.

7. Revenues to be Credited to the Restoration Fund

All M&I Surcharge revenues shall be credited to the Restoration Fund described in Part B of these Interim Guidelines.

PART H

RESTORATION PAYMENTS

[Subsection 3407(c) & (d)]

1. Applicability

Section 3407 of the Act provides that to the extent required in Congressional acts appropriating funds to partially finance the costs to carry out "programs, projects, plans, and wildlife restoration, improvement and acquisition provisions" of the Act, Reclamation shall:

- a. Determine, assess, and collect additional annual mitigation and Restoration payments (hereafter referred to as Restoration Payments) on Project Irrigation Water and M&I Water, Additional Project Water, Project Water provided pursuant to a Water Rights Settlement Contract, Flood Water used for M&I purposes, and Section 215 Water, if any, which is sold and delivered to the Water Contractors, and
- b. Determine a Power Restoration Payment Obligation to be assigned to Power.

The Western Area Power Administration (Western) shall prorate the Power Restoration Payment Obligation among various power beneficiaries and shall assess the resulting Power Restoration Payments.¹⁷

Restoration Payments shall not be assessed on Base Water, Exchange Water, other Project Water made available without charge to the recipient as provided by applicable reclamation law, or Warren Act Contract deliveries.

2. Objectives and Constraints

The Total Restoration Payment Obligation to be collected for Project M&I Water, Project Irrigation Water and Power (hereafter referred to collectively as the Three Functions) is to be assigned annually consistent with the objectives and constraints set forth below:

- a. All dollar amounts referenced in the Act relative to October 1992 price levels shall be adjusted annually by Reclamation to reflect fluctuations in costs over time. The adjustment shall be accomplished through use of OMB escalation factors.

¹⁷ Western has advised Reclamation that the procedures by which it will prorate, assess and collect the Power Restoration Payment Obligation will be established following a public process to be held by Western.

- b. When the Total Restoration Payment Obligation assigned to the Three Functions (the Discretionary Payments) is combined with all projected Non-Discretionary Revenues to be deposited into the Restoration Fund, if any, in a given fiscal year, the total of all projected revenues shall approximate the appropriated amount for that fiscal year unless:
- (1) The annual average amount appropriated by the Congress prior to fiscal year 1997 is less than the targeted appropriation of \$50 million (October 1992 price levels). Under such circumstances yet consistent with all other objectives and constraints presented herein, the Secretary shall impose Restoration Payments in fiscal year 1998 and thereafter as may be required to yield in each year total collections equal to \$50 million (October 1992 price levels) on a three year rolling average basis.
 - (2) The Secretary has determined that all mitigation and restoration actions required by Section 3406 of the Act are completed. Thereafter, the amount appropriated each year and the total of all Restoration Funds to be collected in each fiscal year thereafter shall be reduced to \$35 million (October 1992 price levels). All other objectives and constraints applicable to Restoration Payments as detailed herein shall remain in full force and effect following the reduction of that ceiling.
- c. The Total Restoration Payment Obligation shall not exceed \$30 million (October 1992 price levels) based upon a three-year rolling average. Following the determination by the Secretary that all mitigation and restoration actions required by Section 3406 are completed, the \$30 million (October 1992 price levels) rolling-average limit shall be reduced to \$15 million (October 1992 price levels). All other objectives and constraints applicable to Restoration Payments as provided herein shall remain in full force and effect following the reduction of that ceiling.
- d. The Restoration Payments shall not exceed \$6.00 and \$12.00 (October 1992 price levels) per acre-foot for Project Irrigation and M&I Water, respectively.
- e. Taking into consideration all Non-Discretionary Revenues and Non-Federal Contributions, if any, the Total Restoration Payment Obligation to be assessed and collected in a given fiscal year shall be proportioned "to the greatest degree practicable" among the Three Functions in such a way that all revenues collected, as measured

through the ten-year rolling average, reflect the Three Functions' respective allocations for repayment of the Project (hereafter, referred to as the Target Allocation¹⁸).

- f. In the event the historic record demonstrates that the Secretary has unintentionally under-collected or conversely over-collected relative to the target cumulative amounts of total Restoration Funds to have been collected, the Secretary shall make adjustments to the Restoration Payments to correct for such under- or over-collections in the next fiscal year consistent with all the other requirements as included herein.

3. The Assignment of Restoration Payments

To meet the above objectives and constraints, Reclamation shall:

- a. Set the Total Restoration Payment Obligation to be collected, including the Power Restoration Payment Obligation, at \$30 million (October 1992 price levels) each and every year unless:
 - (1) The appropriated amount when compared to the most recent projected total of all Non-Discretionary Revenues dictates that a lesser or greater amount than \$30 million (October 1992 price levels) of Restoration Payments is needed during the subject fiscal year to meet the amount appropriated.
 - (2) The three year rolling annual average of the total Restoration Payments based on the two most recent years' actual and the prior fiscal year's most recent Restoration Funds revenue projections indicate that the total Restoration Payments collected during that three-year period shall exceed (or conversely, shall fall short of) the \$30 million (October 1992 price levels) average limit. Reclamation shall adjust the \$30 million (October 1992 price levels) target as appropriate.
 - (3) The rolling average limit has been reduced to \$15 million (October 1992 price levels) as discussed in subsection 2.c. of Part H of these Interim Guidelines. Pursuant to this situation, subsections 3.a (1) and 3.a (2) of Part H will be appropriately modified.
- b. In support of the Target Allocation, Reclamation shall develop and use during each fiscal year the most recent available allocation which will reflect actual project accomplishments for the most

¹⁸ The respective allocations for repayment of the Project shall be exclusive of any Water Contractor obligations to provide for the repayment of distribution and drainage service constructed for or financed by the United States for the exclusive use of individual Water Contractors.

recent completed water year.¹⁹ The use of a rolling 10-year average allocation based upon aggregating over time the individual annual Project allocations will result in the assessment and collection of Restoration Fund revenues -- as may be limited by the other constraints and hydrologic variability -- in amounts expected to be "to the greatest degree practicable" close to the Target Allocation.

- c. In recognition of the (a) absolute ceilings relative to the M&I and Irrigation Restoration Payments; (b) the requirement to assess and collect Restoration Payments from the Three Functions as measured over a ten-year rolling average -- "to the greatest degree practicable" -- in accordance with the Target Allocation; and (c) the expectation that the future Project hydrology will require Power to periodically assume responsibility for Restoration Payment shortfalls by the Water Contractors, the Water Contractors will be automatically charged each and every fiscal year the maximum permitted Restoration Payment per acre-foot [that is, \$6.00 (October 1992 price levels) and \$12.00 (October 1992 price levels) per acre-foot of Project Irrigation and M&I Water, respectively.] (Hereafter, this policy shall be referred to as the Maximum Restoration Payment Policy.) The remaining portion of the Total Restoration Payment Obligation shall be assigned to Power.

The Maximum Restoration Payment Policy shall remain in full force and effect unless and until the record of historic actual revenues demonstrates that the percentage allocations to either or both of the Irrigation and M&I Water supply functions will exceed their allocable shares relative to the Target Allocation.

- d. In the event the Maximum Restoration Payment Policy is discontinued relative to the Irrigation and/or M&I water supplies functions, that portion of the Total Restoration Payment Obligation to be allocated to the Irrigation and/or M&I water supply functions, whichever or both are determined to be in excess of their allocable shares relative to the then Target Allocation, shall be directly calculated through application of the percentage allocation determined by Secretary to be necessary to bring the function closer to the Target Allocation. (Hereafter this procedure shall be referred to as the Direct Calculation Method.) The necessary corrections may be implemented over time as necessary to stabilize the various Restoration Payments impacted by the change in procedure.

¹⁹ Due to the time lag in analyzing actual project accomplishments, the allocation to be used for fiscal year 1998, for example, will in fact reflect actual Project accomplishments for fiscal year 1996. The 10-year rolling allocation for the period fiscal year 1994 through fiscal year 2003, for example, will actually represent project accomplishments from fiscal year 1992 through fiscal year 2001. This procedure represents the "closest" allocation possible relative to concurrent (real-time) Project accomplishments.

The portions of the Total Restoration Payment Obligation assigned to the Project Irrigation and M&I Water supply functions through application of the Direct Calculation Method shall be prorated respectively over all Project Irrigation and M&I Water projected to be sold and delivered during the subject fiscal year, but shall be limited to no more than the applicable Restoration Payment limitations. The remaining portions of the Total Restoration Payment Obligation which are not assigned to the M&I or Irrigation water supply functions through the Direct Calculation Method or the Maximum Restoration Payment Policy, as applied consistent with these Interim Guidelines, shall be assigned to Power.

Application of the Direct Calculation Method does not preclude reinstatement at a later date of the Maximum Restoration Payment Policy as may be appropriate.

A sample calculation illustrating many of the above limits, constraints and procedures applied to a modified 1984 through 1992 hydrology is presented in Appendix C of these Interim Guidelines. Consistent with the example hydrology and various other assumptions explained in Appendix C, the Maximum Restoration Payment Policy remained in full force relative to both the Irrigation and M&I Water supply functions throughout the term of the example.

4. Ability to Pay Limitations

- a. Applicability. The Restoration Payment for Project Irrigation Water may be reduced to reflect a Water Contractor's ability to pay as determined and adjusted by the Secretary at no less than 5-year intervals. Ability to pay limitations on Restoration Payments are not applicable to M&I Water.
- b. Determinations. Ability to pay determinations shall be consistent with Reclamation Instructions²⁰, and following the development of appropriate criteria shall take into account the "benefits" resulting from implementation of this Act.
- c. Requests. The Water Contractor must submit to Reclamation a formal request for consideration for a reduction in the Restoration Payment due to ability to pay limitations. The costs of performing the required ability to pay studies shall be the responsibility of the requesting Water Contractor.
- d. Reassignment of Costs. Any portion of the Restoration Payments in excess of a Water Contractor's ability to pay shall be reassigned to the Commercial Power function for repayment in the fiscal year in which the reassignment is made, unless the Restoration Payment

²⁰ Reclamation Instructions are internal guidance documents which detail various procedures and policies applicable to a range of authorized Reclamation functions.

applicable to the Water Contractors for Irrigation Water in the subject year is less than \$6.00 (October 1992 price levels) per acre-foot as determined by the Direct Calculation Method. Under the later circumstance, any amounts in excess of a Water Contractor's documented ability to pay shall be added first to the Restoration Payment applicable to the total remaining Project Irrigation Water supply until the resulting Restoration Payment by the other Water Contractors reaches \$6.00 (October 1992 price levels) per acre-foot. Thereafter, any remaining outstanding amounts will be added to the Power Restoration Payment Obligation.

- e. Order of Financial Relief. If an ability to pay calculation demonstrates that a Water Contractor has an ability to pay something more than its applicable O&M costs but less than the total of its assigned O&M, capital and Restoration Payment, partial relief shall be designated as first applying to the most recent of the applicable obligations and then to other less senior obligations in descending order of seniority.

5. Variability in Restoration Payments

Consistent with the above (Sections 1 through 4 of Part H), the required Restoration Payments and Total Power Restoration Payment Obligation may vary considerably from fiscal year to fiscal year due to the following:

- a. Uncertainty in any fiscal year over the extent to which Congress will appropriate funds from the Restoration Fund. With the exception of the circumstances which mandate the collection of \$50 million annually as described in subsection 2.b.(1) of Part H of these Interim Guidelines, Congress can appropriate as little as \$0 or as much as \$50 million (October 1992 price levels) to be made available from the Restoration Fund in any fiscal year.
- b. The magnitude of water transfers, particularly those transfers intended for M&I purposes, to non-Project entities.
- c. The projected water supplies upon which the Restoration Payment is applied. For example, in the event of a low water supply, the total of all Restoration Payments to be collected from the Irrigation and M&I Water supply functions will be constrained by the projected water supply and the maximum Restoration Payment limitations applicable to the water supply functions. In order to collect the required amount of Restoration Funds, an additional allocation must be made to Power in excess of that indicated by the Target Allocation.
- d. Ability to pay limitations as may be applicable to Water Contractors having an Irrigation Water supply.
- e. Changes in Project accomplishments and, thereby, the Target Allocation over time.

6. Rescheduled Water²¹

Restoration Payments are applicable to Project Water which is rescheduled from delivery in one water year (e.g., water year X) to delivery in a later water year (e.g., water year X+1). Because the Act applies Restoration Payments only to Project Water actually delivered, rescheduled water which is delivered to a Water Contractor or a transferee or an intermediary consistent with an approved transfer shall be subject to Restoration Payments in the year of actual delivery (e.g., year X+1).

7. Banking of Transferred Water

In those instances when Project Water is banked with an intermediary party for the principle purpose of providing a future water supply to the transferee, the water shall be treated as Delivered Project Water when delivered to the intermediary party and not when withdrawn from the Bank. The Restoration Payment shall be that in effect in the year of delivery to the intermediary.

8. Type of Water Use

The manner in which Project Water is used (as Irrigation Water or M&I Water) and the resulting Restoration Payment to be paid shall be consistent with the actual use of such water by the Water Contractor or transferee(s). In those instances when Project Water is banked with an intermediary, the type of water shall be consistent with the ultimate intended use by the transferee consistent with the applicable transfer agreement.

9. Payments Due, Delinquent Payments, and Adjustments for Water Contractors

The Water Contractor (the transferor) is responsible for full payment of all Restoration Payments for Project Water delivered to the Water Contractor, or a transferee, or intermediary. The total amount of Restoration Payments owed for water delivered is due and payable by the Water Contractor by the end of the month following the month of delivery. Such amounts shall be consistent with the quantities of Project Irrigation and M&I Water shown in Reclamation's water delivery report for the subject month. The water delivery report shall be regarded by the Water Contractor as a bill for all Restoration Payments.

Any adjustments for overpayment or underpayment shall be accomplished through the adjustment of Restoration Payments or other charges due to the United States relative to the subject Water Service, Water Rights Settlement or Repayment Contract and payable in the next month.

²¹ All proposals to reschedule water to a later year must be approved by Reclamation.

The amount to be paid for past due payment of Restoration Payments shall be computed in a manner consistent with the terms included in the Water Contractor's then existing Water Service, Water Rights Settlement or Repayment Contract.

Transferees are not responsible for payment to the United States of Restoration Payments applicable to Project Water transferred to them.

10. Relationship to Other Project Water Payments and Surcharges

The responsibility of the Water Contractors to pay their applicable Restoration Payments as described above shall be in addition to all other payments required by the Act and other applicable provisions of reclamation law.

11. Payment by Power of Restoration Payments

Western (Western) shall prorate the Power Restoration Payment Obligation among the various Project power beneficiaries and shall bill them for the resulting Restoration Payments. Provisions regarding delinquency, payments dates, and payment adjustments shall be addressed in an agreement between Western and Reclamation.

12. Revenues to be Credited to the Restoration Fund

All Restoration Payments shall be credited to the Restoration Fund described in Part B of these Interim Guidelines.

PART I

NOTIFICATION OF AMOUNTS TO BE PAID

1. Reclamation shall include in its annual preliminary water rate publications all applicable payments and charges required by the Act to be paid by the Water Contractors during the forthcoming fiscal year. For the purposes of implementing and maintaining the Restoration Fund, the applicable payments and charges as required by the Act shall be regarded as final for the subject fiscal year. The preliminary water rates are usually made available on or about July 1 of each year.
2. Concurrent with the release of the annual preliminary water rate publications, Reclamation shall notify Western of the Power Restoration Payment Obligation to be directly assigned to Power and the amount, if any, which will be indirectly assigned to Power as a result of the per acre-foot Restoration Payment limits applicable to the Irrigation and M&I Water supply functions. The Power Restoration Payment Obligation and the amount, if any, which will be indirectly assigned to Power as a result of the per Restoration Payment limits applicable to water shall be regarded as final relative to the subject fiscal year. Reclamation will notify Western of any amounts to be paid by Power as a result of ability to pay limitations.

PART J

NON-FEDERAL CONTRIBUTIONS

[Subsection 3407(a)]

1. Monies donated by Non-Federal entities shall be credited to the Restoration Fund to foster one or more specific purposes.
2. Such Non-Federal Contributions shall be expended by the United States only for the purpose(s) specified by the Contributor(s) and shall not be subject to appropriation.
3. The Secretary shall not accept a Non-Federal Contribution for credit to the Restoration Fund prior to the execution of a written agreement between the Contributors and the United States. (Bases of negotiation and other matters concerning the content and execution of the proposed agreement shall be developed and forwarded to Reclamation's Washington Office for review and approval prior to execution of a written agreement.)

PART K

RESTORATION FUND FINANCIAL REPORTS

[Subsection 3407(f)]

- 1. By September 30, 1994, and annually thereafter, the Secretary shall prepare and submit a detailed financial report to the following five Congressional committees:**
 - a. Senate Committee on Energy and Natural Resources;**
 - b. Committee on Appropriations of the Senate;**
 - c. House Committee on Natural Resources;**
 - d. House Committee on Merchant Marine and Fisheries; and**
 - e. Committee on Appropriations of the House of Representatives.**
- 2. The financial report shall detail:**
 - a. All deposits made to the Restoration Fund during the prior fiscal year including the source(s) of each deposit; Restoration Fund expenditures by authorized activity and responsible entity (entities) during the prior fiscal year; and the beginning and end-of-year balances of the Restoration Fund, and**
 - b. Upcoming fiscal year's projections of deposits to and expenditures from the Restoration Fund, and the beginning and anticipated end-of-year balances of the Restoration Fund.**
- 3. In addition, said financial report shall reflect all State of California and reimbursable and nonreimbursable Federal expenditures other than those from the Restoration Fund incurred in the subject fiscal year to carry out the provisions of this Title.**

APPENDIX A

APPLICATION OF PAYMENTS AND SURCHARGES: EXAMPLE CALCULATIONS

1. Friant Unit Water Contractor X has received approval from Reclamation to transfer 200 acre-feet (AF) of its 10,000 acre-feet (AF) maximum Project contractual entitlement to entity Y, who was never a CVP Water Contractor prior to October 30, 1992. Entity Y proposes to use this water for M&I purposes. The deliveries to Entity Y are scheduled for February, the last month of the Water Contractor's contractual water year. Consistent with Reclamation's monthly water delivery records, Water Contractor X anticipates the use of 9,100 AF of its maximum combined contractual entitlement prior to February.

Water Contractor X's contractual irrigation water rate is \$4.00 per AF. The Water Contractor's Cost of Service Rate and Full Cost Rate for irrigation water are \$8.00 and \$12.00 per AF, respectively. The Water Contractor's contractual, current, and M&I Full Cost rates are \$6.00, \$10.00 and \$15.00 per AF, respectively.

- a. For purposes of this simplified example and excluding all other payments and surcharges required by the Act or other applicable reclamation law, what water rate must be paid by Water Contractor X for all water scheduled to be transferred?

Analysis and Response:

Impacts of Tiered Water Rates - Reclamation records shows that the contract qualifies as a "new, renewed or amended contract" consistent with the provisions of Part D of the interim guidelines. Accordingly the Water Contractor will encounter the following Tiered Water Rate thresholds:

Max. Contractual Entitlement	10,000 AF
> 90 Percent Threshold	> 9,000 AF
> 80 Percent Threshold	> 8,000 AF

Because the Water Contractor anticipates the use of 9,100 AF of its maximum contractual entitlement prior to the time of the transfer, it is anticipated that the 200 AF of transferred water will exceed the 90 percent threshold. The water is proposed to be used for M&I purposes; therefore, M & I rates are applicable. The Water Contractor will pay the M&I Full Cost Rate of \$15.00 per AF.

Impacts of Transferred Water Rate Requirements - Under the Transferred Water Rate provisions, water used for M&I purposes must be paid for at the Water Contractor's current applicable M&I rate, that is at \$10.00 per AF.

Payment of the Highest Rate - The Interim Guidelines require the Water Contractor to pay the higher of the Transferred Water Rate or Tiered Water Rate when both are applicable. In this example, the Water Contractor is required to pay \$15.00 per AF for all water transferred for M&I purposes pursuant to the subject proposal.

- b. What would the rate be if the water were to be used by the transferee for agricultural purposes?

Analysis and Response:

Impacts of Tiered Water Rates - The water is proposed to be used for agricultural purposes; therefore, irrigation water rates are applicable. Consistent with the prior analysis, the Water Contractor anticipates the use of 9,100 AF of its contractual entitlement prior to the time of the transfer. Therefore, it is projected that the 200 AF of transferred water will exceed the 90 percent threshold and thereby be subject to the Irrigation Full Cost Rate of \$12.00 per AF.

Impacts of Transferred Water Rate Requirements - Under the Transferred Water Rate provisions, water used for agricultural purposes must be paid for at the Water Contractor's Irrigation Full Cost Rate, that is at \$12.00 per AF.

Payment of the Highest Rate - The Interim Guidelines require the Water Contractor to pay the higher of the Transferred or Tiered Water Rate when both are applicable. In this example, the applicable Tiered and Transferred Water Rates are the same. The Water Contractor is required to pay \$12.00 per AF for all water transferred for agricultural purposes pursuant to the subject proposal.

- c. What other surcharges and payments must Water Contractor X pay relative to the transferred water?

Analysis and Response:

Water Contractor X must pay:

- the applicable Friant Surcharge;
- the applicable irrigation or M&I Restoration Payment dependent upon the transferee's actual water use; and
- the \$25 (October 1992 price levels) M&I Surcharge, if the water is used for M&I purposes.

If the transfer were to occur after the date of applicability of the Pre-Renewal Charges, Pre-Renewal Charges will be applicable if Water Contractor X meets the criteria discussed in Part C of these Interim Guidelines. The Pre-Renewal Charges will be equal to 1.5 times the calculated, applicable Restoration Payment.

- d. Upon receipt of the appropriate water rate and applicable surcharges and payments, how will Reclamation credit the monies received for the transferred water?

Response:

<u>Revenue</u>	<u>CREDITING Amount/AF</u>	<u>Account</u>
<u>Full Cost M&I Rate</u>	\$15.00	
Cost of Service Component	<u>10.00</u>	Project Repayment
Difference between Cost of Service and Full Cost	<u>\$ 5.00</u>	Restoration Fund (Tiered Water Rate <u>or</u> Transfer Revenue)
<u>Payments</u>		
Friant Surcharge	\$4 - 7	Restoration Fund
Restoration Payment	Variable	Restoration Fund
Pre-Renewal Charge	Variable ¹	Restoration Fund
M&I Surcharge	\$25.00 ²	Restoration Fund

¹ The Pre-renewal Charge, if any, is to be equal to 1.5 times the calculated Restoration Payment.

² The \$25.00 M&I Surcharge reflects October 1992 price levels and is to be adjusted consistent with the provisions of subsection ac. of Part H of the interim Guidelines.

2. It is Fiscal Year 1996, and Tehama-Colusa Water Contractor Y has received approval from Reclamation to transfer a portion of its entitlement to an entity which was not a CVP Water Contractor prior to October 30, 1992, the date of passage of the Act. The transferee proposes to use that water for agricultural purposes. Following completion of all the required acreage limitation forms by the transferee's landholders as required by the RRA, it is determined that the transferred water will be applied to full cost lands. Water Contractor Y has reviewed its most recent monthly water delivery reports from Reclamation and determined that the subject water at the time of transfer will probably account for a portion of its entitlement in excess of 80 percent but no more than 90 percent of Water Contractor Y's maximum contractual entitlement. The Water Contractor's applicable contractual rate is set at the Cost of Service rate. The Cost of Service and Full Cost Rates for irrigation water are \$17.00 and \$35.00 per A, respectively.

What is the appropriate water rate to be paid by Water Contractor Y for the subject water? What additional charges and payments will Water Contractor Y be required to pay, and how will the various payments and surcharges be credited?

Analysis and Response:

Impacts of Tiered Water Rates - Tehama-Colusa Water Contractor Y's contract was renewed in 1995 and, therefore, is subject to the Tiered Water Rate provisions as discussed in Part D (Tiered Water Rates) of these Interim Guidelines. Accordingly, water used for irrigation purposes in excess of 80 percent but no more than 90 percent of the Water Contractor's maximum combined contractual entitlement must be paid for at a rate equal to the average of the Water Contractor's contractual water rate and the Water Contractor's full cost irrigation water rate. Because the contractual water rate is the Cost-of-Service, the average rate is:

$$(\$17.00/AF + \$35.00/AF) / 2 = \$26.00/AF$$

Impacts of Transferred Water Rates - Under the Transferred Water Rate provisions of these Interim Guidelines, water used for irrigation purposes must be paid for at the Water Contractor's full cost water rate of \$35.00 per AF.

Impacts of Full Cost Provisions of RRA - Independent of these Interim Guidelines, irrigation water which is applied to full cost lands must be paid for at Water Contractor Y's full cost water rate of \$35.00 per AF.

Payment of the Highest Rate - The Interim Guidelines require Water Contractor Y to pay the highest of the Transferred, Tiered or Full Cost water rates when all three are applicable. In this instance, the Contractor is required to pay the irrigation Full Cost Rate of \$35.00 per AF.

Applicable Surcharges and Payments and Crediting:

In addition to the payment of the full cost irrigation water rate, the Water Contractor will be required to pay the irrigation Restoration Payment. Because Water Contractor Y has renewed its water service contract, Pre-Renewal Charges are not applicable.

<u>Revenue</u>	<u>CREDITING Amount/AF</u>	<u>Credit Account</u>
<u>Full cost Irrigation Rate</u>	\$35.00	
Cost of Service	<u>17.00</u>	Project Repayment
Difference between Cost of Service and Full Cost Rates	<u>\$18.00</u>	Reclamation Fund
<u>Payments</u>		
Restoration Payment	Variable	Restoration Fund

APPENDIX B

CHARGES FOR DELINQUENCY PAYMENTS **APPLICABLE TO EXCHANGE CONTRACTORS**

- a. The Exchange Contractor shall be subject to interest, administrative and penalty charges on delinquent payments. When a payment is not received by the due date, the Exchange Contractor shall pay an interest charge for each day the payment is delinquent beyond the due date. When a payment becomes 60 days delinquent, the Exchange Contractor shall pay an administrative charge to cover additional costs of billing and processing the delinquent payment. When a payment is delinquent 90 days or more, the Exchange Contractor shall pay an additional penalty charge of 6 percent per year for each day the payment is delinquent beyond the due date. Further, the Exchange Contractor shall pay any fees incurred for debt collection services associated with a delinquent payment.
- b. The interest charge rate shall be greater of the rate prescribed quarterly in the Federal Register by the Department of the Treasury for application to overdue payments, or the interest charge rate of 0.5 percent per month prescribed by Section 6 of the Reclamation Project Act of 1939. The interest charge rate shall be determined as of the due date and remain fixed for the duration of the delinquency period.
- c. When a partial payment on a delinquent account is received, the amount received shall be applied, first to the penalty, second to the administrative charges, third to the accrued interest, and finally to the overdue payment.

APPENDIX C

RESTORATION PAYMENTS: A 10-YEAR EXAMPLE

Reclamation has analyzed the allocation of Restoration Payments and Restoration Funds for a hypothetical 10 year period, herein labeled the period fiscal year 1994 through fiscal year 2003, relative to the Three Functions -- M&I Water supply, Irrigation Water supply and Power. The example calculation is dependent upon various critical assumptions, including, except for one year, the most recent available Central Valley Project hydrology, a period of unprecedented drought. The analysis is not intended to represent any particular forthcoming period -- it is intended to represent an analysis of one possible scenario.

The principal assumptions are as follows:

1. Projected Hydrology and Water Deliveries:

Year	Total Projected Project Deliveries		Source of Project Deliveries
	Irrigation	M&I	
1994	3,126,000	365,000	Projected 1994 Deliveries
1995	3,486,000	400,000	Total 1984 Deliveries Less 900,000 AF
1996	2,702,000	400,000	Total 1985 Deliveries Less 900,000 AF
1997	3,153,000	400,000	Total 1986 Deliveries Less 900,000 AF
1998	2,532,000	400,000	Total 1987 Deliveries Less 900,000 AF
1999	2,576,000	400,000	Total 1988 Deliveries Less 900,000 AF
2000	2,590,000	400,000	Total 1989 Deliveries Less 900,000 AF
2001 ³	2,008,000	400,000	Total 1990 Deliveries Less 700,000 AF
2002 ³	1,239,000	300,000	Total 1991 Deliveries Less 700,000 AF
2003 ³	1,012,000	300,000	Total 1992 Deliveries Less 700,000 AF

Reclamation is unable at this time to project the total actual reductions in Delivered Project Water to be expected in above-normal, normal or drought years as a result of the requirements of the Act and the Endangered Species

³ The Project deliveries have been reduced due to an assumed, persistent, long-term drought.

Act (ESA). The above reductions have been assumed for the purposes of the example calculation and are not intended to indicate actual or projected reductions in yields as a result of the requirements of this Act or the ESA.

2. Cost-indexing. All dollar amounts have been adjusted over time based upon an assumed cost index.

3. Friant Surcharges. The annual projected revenues from Friant Surcharges during the period fiscal year 1994 through 2003 are assumed to be reflective of the annual historic average Class 1 and Class 2 water supplies, that is, an annual average delivery of 1.5 million acre-feet. Approximately 5.3 percent of the Friant Surcharge revenues were credited as originating from M&I Water deliveries. The remaining portion is assumed to originate from Irrigation Water deliveries.

4. Projected Revenues Other Than Restoration Payments and Friant Surcharges. Due to the lack of historic observations, Reclamation is unable at this time to make informed and accurate projections of future Restoration Fund revenues resulting from application of Tiered Water Rates, Transferred Water Rates, M&I Surcharges and Pre-Renewal Charges. Accordingly the assumed amounts of Tiered Water Revenues, M&I Surcharges, Transferred Revenues and Pre-Renewal Charges as used and credited to the Irrigation and M&I Water supply functions in the example calculation represent speculative amounts. These amounts are shown below:

Pre-Renewal Charges: Analysis assumes 200,000 AF subject to Pre-Renewal Charges in fiscal years 1998 through 2003. The applicable Pre-Renewal Charge in a particular year is to equal 1.5 times the then Restoration Payment. For example purposes, all of the Pre-Renewal Charges are shown as applicable to Irrigation.

Tiered Water Revenues:

1994	\$	0	1999	\$	300,000
1995		0	2000		300,000
1996		0	2001		0
1997		0	2002		0
1998		100,000	2003		0

Transferred Water Quantities and Associated Per Acre-Foot Revenue:

1994	0 AF	1999	50,000 AF x \$35.10/AF ⁴ 50,000 AF x \$45.00/AF ⁵
1995	50,000 AF x \$30.00/AF	2000	75,000 AF x \$36.50/AF 50,000 AF x \$46.9714/AF
1996	50,000 AF x \$31.20/AF 10,000 AF x \$40.00/AF	2001	75,000 AF x \$37.96/AF 75,000 AF x \$48.67/AF
1997	50,000 AF x \$32.45/AF 25,000 AF x \$41.60/AF	2002	100,000 AF x \$39.48/AF 75,000 AF x \$50.61/AF
1998	50,000 AF x \$33.75/AF 50,000 AF x \$43.26/AF	2003	100,000 AF x \$41.06/AF 100,000 AF x \$52.64/AF

M&I Surcharge Water Quantities and Associated Per AF Revenue:

1994	0 AF	1999	50,000 AF x \$29.96/AF ⁶
1995	50,000 AF x \$26.68/AF	2000	75,000 AF x \$30.95/AF
1996	50,000 AF x \$27.53/AF	2001	75,000 AF x \$31.97/AF
1997	50,000 AF x \$28.40/AF	2002	100,000 AF x \$33.02/AF
1998	50,000 AF x \$29.30/AF	2003	100,000 AF x \$34.11/AF

5. Implementation of the Maximum Restoration Payment Policy. Consistent with the Interim Guidelines, all M&I and Irrigation Water Contractors are to be charged each and every fiscal year the maximum Restoration Payment per AF

⁴ The first quantity shown in each year following fiscal year 1994 is predicated upon Project M&I Water transfers from Exchange Contractors to an entity that was not a Central Valley Project Contractor on October 30, 1992. The Transferred Water Rate is at the Exchange Contractors' computed Cost of Service M&I Rate, estimated at \$30 per acre-foot. The \$30 rate is escalated at 4 percent per year thereafter.

⁵ The second quantity shown for each year following fiscal year 1994 is predicated upon Project Irrigation Water transfers from an Exchange Contractor to an entity that was not a Central Valley Project Contractor on October 30, 1992. The Transferred Water Rate is at the Irrigation Full Cost Rate for the Exchange Contractors, which is estimated at \$40 per acre-foot for 1995. The \$40 rate has been escalated by 4 percent per year thereafter.

⁶ The \$25.00 M&I Surcharge (October 1992 price levels) associated with the assumed M&I Water transfers has been escalated by 4 percent per year thereafter.

[that is, \$6.00 (October 1992 price levels) and \$12.00 (October 1992 price levels) of Project Irrigation and M&I Water, respectively.] The remaining portion of the Total Restoration Payment Obligation has been assigned to Power. The analysis presumes that the Maximum Restoration Payment Policy remains in full force and effect unless and until the record of historic actual revenues demonstrates that the percentage allocations to either or both of the Irrigation and M&I Water supply functions will exceed their allocable shares relative to the Target Allocation.

6. Target Allocation. The Target Allocation reflects the Central Valley Project plant-in-service cost allocation percentages for fiscal year 1991. Said allocation represents the actual historic and projected future project accomplishments.

Findings: Consistent with the above assumptions, the completed analysis shows that approximately 26 percent of the Restoration Fund revenues will be assigned to and collected from Power over the 10-year study period (see Summary Table C-1 herein.) Despite the employment of the Maximum Restoration Payment Policy throughout the subject study period, the total amount of Restoration Payments assigned to Power is significantly in excess of the Target Allocation percentage for Power, that is 18 percent of the Restoration Fund revenues. This result is principally due to the impact of the drought years upon Restoration Payment collections from Irrigation Water beneficiaries. Prior to the reduction of Project Water supply due to persistent, long-term drought, assignment to and collection from Power approximated some 19 percent of the total Restoration Fund payments.

The resulting Restoration Payment obligations calculated on a year by year basis are shown in Tables C-1A through C-1J herein.

TABLE C-1 - SUMMARY
EXAMPLE CALCULATION - RESTORATION FUND PAYMENTS
FISCAL YEAR 1994 - 2003

	Power			Irrigation			M&I			
	Discretionary Payment	% of Total	Non-Discretionary Payments	Discretionary Payment	Total Payments	% of Total	Non-Discretionary Payments	Discretionary Payment	Total Payments	Grand Total of Payments
1994	\$7,092,800	15.76%	\$13,258,000	\$19,381,200	\$32,639,200	72.53%	\$742,000	\$4,528,000	\$5,268,000	\$45,000,000
1995	4,579,800	11.21%	5,882,000	22,310,400	27,992,400	68.54%	3,152,000	5,120,000	8,272,000	40,844,000
1996	9,885,780	23.33%	6,082,000	17,860,220	23,942,220	56.52%	3,254,500	5,284,000	8,538,500	42,366,500
1997	7,124,540	16.13%	6,722,000	21,503,460	28,225,460	63.91%	3,360,500	5,452,000	8,812,500	44,162,500
1998	11,736,040	23.39%	11,474,500	17,789,860	29,274,460	58.33%	3,550,000	5,624,000	9,174,000	50,184,500
1999	11,805,000	22.81%	11,827,500	18,676,000	30,503,500	58.93%	3,650,500	5,804,000	9,454,500	51,763,000
2000	12,058,900	20.83%	14,830,000	19,399,100	34,228,100	59.13%	5,615,250	5,888,000	11,803,250	57,891,250
2001 *	16,842,160	28.07%	15,912,750	15,521,840	31,434,590	52.08%	5,801,250	6,180,000	11,981,250	60,359,000
2002 *	25,221,170	39.52%	16,130,250	9,874,830	26,005,080	40.75%	7,806,500	4,785,000	12,591,500	63,817,750
2003 *	27,890,240	41.69%	17,676,500	9,328,760	26,005,260	38.86%	8,073,500	4,938,000	13,011,500	68,807,000
Totals	\$134,339,230		\$119,595,500	\$170,655,770	\$290,251,270		\$45,006,000	\$53,701,000	\$98,707,000	\$523,294,500

10-yr Average
1994 - 2003

\$13,433,623 25.87%

\$29,025,127 55.47%

\$9,870,700 18.86%

\$52,329,450

7-yr Average
1994 - 2000

\$9,183,237 19.35%

\$29,543,763 92.25%

\$8,731,821 18.40%

\$47,459,821

Targeted %

18%

92%

20%

* Reduced Project deliveries due to persistent long-term drought.

TABLE C-1A
Restoration Fund Payments – FY 1994

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 0	\$ 0	\$ 0
Tiered Water Revenues	0	0	0	0
Transfer Revenues	0	0	0	0
Friant Surcharges – FY 93	0	7,576,000	424,000	8,000,000
Friant Surcharges – FY 94	0	5,682,000	318,000	6,000,000
M&I Surcharges	0	0	0	0
Total Non-Discretionary	0	13,258,000	742,000	14,000,000
Max Restoration Payment 1/	0	19,381,200	4,526,000	23,907,200
Subtotal	0	32,639,200	5,268,000	\$ <u>37,907,200</u>
Allocated RP Share	8,100,000	27,900,000	9,000,000	\$ 45,000,000 2/
RP Revenues in Excess of Allocated Share	0	4,739,200	-3,732,000	1,007,200
RP Adjustment for Over(Under)	-1,007,200	0	0	-1,007,200
TOTAL	\$ <u>7,092,800</u>	\$ <u>32,639,200</u>	\$ <u>5,268,000</u>	\$ <u>45,000,000</u>
% Allocation after Adjustment	<u>15.76%</u>	<u>72.53%</u>	<u>11.71%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:

	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'94 Est. Paid Water Deliveries (AF)	3,126,000	365,000	3,491,000
Maximum Rate per AF	\$ 6.20	\$ 12.40	
Maximum Amount	\$ <u>19,381,200</u>	\$ <u>4,526,000</u>	\$ <u>23,907,200</u>

2/ Maximum Discretionary Revenues
Projected Non-Discretionary Revenues

	\$ 31,000,000
	14,000,000
Total	\$ <u>45,000,000</u>

TABLE C-1B
Restoration Fund Payments – FY 1995

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 0	\$ 0	\$ 0
Tiered Water Revenues	0	0	0	0
Transfer Revenues	0	0	1,500,000	1,500,000
Friant Surcharges	0	5,682,000	318,000	6,000,000
M&I Surcharges	0	0	1,334,000	1,334,000
Total Non-Discretionary	0	5,682,000	3,152,000	8,834,000
Max Restoration Payment 1/	0	22,310,400	5,120,000	27,430,400
Subtotal	0	27,992,400	8,272,000	\$ 36,264,400
Allocated RP Share	7,351,920	25,323,280	8,168,800	\$ 40,844,000 2/
RP Revenues in Excess of Allocated Share	0	2,669,120	103,200	2,772,320
RP Adjustment for Over(Under)	-2,772,320	0	0	-2,772,320
TOTAL	\$ 4,579,600	\$ 27,992,400	\$ 8,272,000	\$ 40,844,000
% Allocation after Adjustment	<u>11.21%</u>	<u>68.54%</u>	<u>20.25%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:

	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'95 Est. Paid Water Deliveries (AF)	3,486,000	400,000	3,886,000
Maximum Rate per AF	\$ 6.40	\$ 12.80	
Maximum Amount	\$ 22,310,400	\$ 5,120,000	\$ 27,430,400

2/ Maximum Discretionary Revenues
Projected Non-Discretionary Revenues

	\$ 32,010,000
	8,834,000
Total	\$ 40,844,000

TABLE C-1C
Restoration Fund Payments – FY 1996

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 0	\$ 0	\$ 0
Tiered Water Revenues	0	0	0	0
Transfer Revenues	0	400,000	1,560,000	1,960,000
Friant Surcharges	0	5,682,000	318,000	6,000,000
M&I Surcharges	0	0	1,376,500	1,376,500
Total Non-Discretionary	0	6,082,000	3,254,500	9,336,500
Max Restoration Payment 1/	0	17,860,220	5,284,000	23,144,220
Subtotal	0	23,942,220	8,538,500	\$ <u>32,480,720</u>
Allocated RP Share	7,625,970	26,267,230	8,473,300	\$ 42,366,500 2/
RP Revenues in Excess of Allocated Share	0	-2,325,010	65,200	-2,259,810
RP Adjustment for Over(Under)	2,259,810	0	0	2,259,810
TOTAL	\$ <u>9,885,780</u>	\$ <u>23,942,220</u>	\$ <u>8,538,500</u>	\$ <u>42,366,500</u>
% Allocation after Adjustment	<u>23.33%</u>	<u>56.52%</u>	<u>20.15%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:

	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'96 Est. Paid Water Deliveries (AF)	2,702,000	400,000	3,102,000
Maximum Rate per AF	\$ 6.61	\$ 13.21	
Maximum Amount	\$ <u>17,860,220</u>	\$ <u>5,284,000</u>	\$ <u>23,144,220</u>

2/ Maximum Discretionary Revenues
Projected Non-Discretionary Revenues

	\$ 33,030,000
	9,336,500
Total	\$ <u>42,366,500</u>

TABLE C-1D
Restoration Fund Payments – FY 1997

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 0	\$ 0	\$ 0
Tiered Water Revenues	0	0	0	0
Transfer Revenues	0	1,040,000	1,622,500	2,662,500
Front Surcharges	0	5,682,000	318,000	6,000,000
M&I Surcharges	0	0	1,420,000	1,420,000
	<hr/>	<hr/>	<hr/>	<hr/>
Total Non-Discretionary	0	6,722,000	3,360,500	10,082,500
Max Restoration Payment 1/	<hr/>	<hr/>	<hr/>	<hr/>
	0	21,503,460	5,452,000	26,955,460
Subtotal	<hr/>	<hr/>	<hr/>	<hr/>
	0	28,225,460	8,812,500	\$ 37,037,960
Allocated RP Share	<hr/>	<hr/>	<hr/>	<hr/>
	7,949,250	27,380,750	8,832,500	\$ 44,162,500 2/
RP Revenues in Excess of Allocated Share	<hr/>	<hr/>	<hr/>	<hr/>
	0	844,710	-20,000	824,710
RP Adjustment for Over(Under)	<hr/>	<hr/>	<hr/>	<hr/>
	-824,710	0	0	-824,710
	<hr/>	<hr/>	<hr/>	<hr/>
TOTAL	\$ 7,124,540	\$ 28,225,460	\$ 8,812,500	\$ 44,162,500
% Allocation after Adjustment	<u>16.13%</u>	<u>63.91%</u>	<u>19.95%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'97 Est. Paid Water Deliveries (AF)	3,153,000	400,000	3,553,000
Maximum Rate per AF	\$ 6.82	\$ 13.63	
Maximum Amount	<hr/>	<hr/>	<hr/>
	\$ 21,503,460	\$ 5,452,000	\$ 26,955,460
2/ Maximum Discretionary Revenues	\$ 34,080,000		
Projected Non-Discretionary Revenues	<hr/>		
	10,082,500		
Total	<hr/>		
	\$ 44,162,500		

TABLE C-1E
Restoration Fund Payments – FY 1998

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 2,109,000	\$ 0	\$ 2,109,000
Tiered Water Revenues	0	100,000	0	100,000
Transfer Revenues	0	2,163,000	1,687,500	3,850,500
Friant Surcharges	0	7,102,500	397,500	7,500,000
M&I Surcharges	0	0	1,465,000	1,465,000
Total Non-Discretionary	0	11,474,500	3,550,000	15,024,500
Max Restoration Payment 1/	0	17,799,960	5,624,000	23,423,960
Subtotal	0	29,274,460	9,174,000	\$ 38,448,460
Allocated RP Share	9,033,210	31,114,390	10,036,900	\$ 50,184,500 2/
RP Revenues in Excess of Allocated Share	0	-1,839,930	-862,900	-2,702,830
RP Adjustment for Over(Under)	2,702,830	0	0	2,702,830
TOTAL	\$ 11,736,040	\$ 29,274,460	\$ 9,174,000	\$ 50,184,500
% Allocation after Adjustment	<u>23.39%</u>	<u>58.33%</u>	<u>18.28%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
98 Est. Paid Water Deliveries (AF)	2,532,000	400,000	2,932,000
Maximum Rate per AF	\$ 7.03	\$ 14.06	
Maximum Amount	\$ 17,799,960	\$ 5,624,000	\$ 23,423,960
2/ Maximum Discretionary Revenues	\$ 35,160,000		
Projected Non-Discretionary Revenues	15,024,500		
Total	\$ 50,184,500		

TABLE C-1F
Restoration Fund Payments – FY 1999

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 2,175,000	\$ 0	\$ 2,175,000
Tiered Water Revenues	0	300,000	0	300,000
Transfer Revenues	0	2,250,000	1,755,000	4,005,000
Friant Surcharges	0	7,102,500	397,500	7,500,000
M&I Surcharges	0	0	1,498,000	1,498,000
Total Non-Discretionary	0	11,827,500	3,650,500	15,478,000
Max Restoration Payment 1/	0	18,676,000	5,804,000	24,480,000
Subtotal	0	30,503,500	9,454,500	\$ <u>39,958,000</u>
Allocated RP Share	9,317,340	32,093,060	10,352,600	\$ 51,763,000 2/
RP Revenues in Excess of Allocated Share	0	-1,589,560	-898,100	-2,487,660
RP Adjustment for Over(Under)	2,487,660	0	0	2,487,660
TOTAL	\$ <u>11,805,000</u>	\$ <u>30,503,500</u>	\$ <u>9,454,500</u>	\$ <u>51,763,000</u>
% Allocation after Adjustment	<u>22.81%</u>	<u>58.93%</u>	<u>18.26%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:

	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'99 Est. Paid Water Deliveries (AF)	2,576,000	400,000	2,976,000
Maximum Rate per AF	\$ 7.25	\$ 14.51	
Maximum Amount	\$ <u>18,676,000</u>	\$ <u>5,804,000</u>	\$ <u>24,480,000</u>

2/ Maximum Discretionary Revenues
Projected Non-Discretionary Revenues

	\$ 36,285,000
	15,478,000
Total	\$ <u>51,763,000</u>

TABLE C-1G
Restoration Fund Payments – FY 2000

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 2,247,000	\$ 0	\$ 2,247,000
Tiered Water Revenues	0	300,000	0	300,000
Transfer Revenues	0	2,339,500	2,737,500	5,077,000
Friant Surcharges	0	9,943,500	556,500	10,500,000
M&I Surcharges	0	0	2,321,250	2,321,250
Total Non-Discretionary	0	14,830,000	5,615,250	20,445,250
Max Restoration Payment 1/	0	19,399,100	5,988,000	25,387,100
Subtotal	0	34,229,100	11,603,250	\$ <u>45,832,350</u>
Allocated RP Share	10,420,425	35,892,575	11,578,250	\$ 57,891,250 2/
RP Revenues in Excess of Allocated Share	0	-1,663,475	25,000	-1,638,475
RP Adjustment for Over(Under)	1,638,475	0	0	1,638,475
TOTAL	\$ <u>12,058,900</u>	\$ <u>34,229,100</u>	\$ <u>11,603,250</u>	\$ <u>57,891,250</u>
% Allocation after Adjustment	<u>20.83%</u>	<u>59.13%</u>	<u>20.04%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:

	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'00 Est. Paid Water Deliveries (AF)	2,590,000	400,000	2,990,000
Maximum Rate per AF	\$ 7.49	\$ 14.97	
Maximum Amount	\$ <u>19,399,100</u>	\$ <u>5,988,000</u>	\$ <u>25,387,100</u>

2/ Maximum Discretionary Revenues
Projected Non-Discretionary Revenues

	\$ 37,446,000
	20,445,250
Total	\$ <u>57,891,250</u>

TABLE C-1H
Restoration Fund Payments – FY 2001

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 2,319,000	\$ 0	\$ 2,319,000
Tiered Water Revenues	0	0	0	0
Transfer Revenues	0	3,650,250	2,847,000	6,497,250
Friant Surcharges	0	9,943,500	556,500	10,500,000
M&I Surcharges	0	0	2,397,750	2,397,750
Total Non-Discretionary	0	15,912,750	5,801,250	21,714,000
Max Restoration Payment 1/	0	15,521,840	6,180,000	21,701,840
Subtotal	0	31,434,590	11,981,250	\$ 43,415,840
Allocated RP Share	10,864,440	37,421,960	12,071,600	\$ 60,358,000 2/
RP Revenues in Excess of Allocated Share	0	-5,987,370	-90,350	-6,077,720
RP Adjustment for Over(Under)	6,077,720	0	0	6,077,720
TOTAL	\$ 16,942,160	\$ 31,434,590	\$ 11,981,250	\$ 60,358,000
% Allocation after Adjustment	<u>28.07%</u>	<u>52.08%</u>	<u>19.85%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'01 Est. Paid Water Deliveries (AF)	2,008,000	400,000	2,408,000
Maximum Rate per AF	\$ 7.73	\$ 15.45	
Maximum Amount	\$ 15,521,840	\$ 6,180,000	\$ 21,701,840
2/ Maximum Discretionary Revenues	\$ 38,644,000		
Projected Non-Discretionary Revenues	21,714,000		
Total	\$ 60,358,000		

TABLE C-11
Restoration Fund Payments – FY 2002

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 2,391,000	\$ 0	\$ 2,391,000
Tiered Water Revenues	0	0	0	0
Transfer Revenues	0	3,795,750	3,948,000	7,743,750
Friant Surcharges	0	9,943,500	556,500	10,500,000
M&I Surcharges	0	0	3,302,000	3,302,000
Total Non-Discretionary	0	16,130,250	7,806,500	23,936,750
Max Restoration Payment 1/	0	9,874,830	4,785,000	14,659,830
Subtotal	0	26,005,080	12,591,500	\$ <u>38,596,580</u>
Allocated RP Share	11,487,195	39,567,005	12,763,550	\$ 63,817,750 2/
RP Revenues in Excess of Allocated Share	0	-13,561,925	-172,050	-13,733,975
RP Adjustment for Over(Under)	13,733,975	0	0	13,733,975
TOTAL	\$ <u>25,221,170</u>	\$ <u>26,005,080</u>	\$ <u>12,591,500</u>	\$ <u>63,817,750</u>
% Allocation after Adjustment	<u>39.52%</u>	<u>40.75%</u>	<u>19.73%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:

	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'02 Est. Paid Water Deliveries (AF)	1,239,000	300,000	1,539,000
Maximum Rate per AF	\$ 7.97	\$ 15.95	
Maximum Amount	\$ <u>9,874,830</u>	\$ <u>4,785,000</u>	\$ <u>14,659,830</u>

2/ Maximum Discretionary Revenues	\$ 39,881,000
Projected Non-Discretionary Revenues	23,936,750
Total	\$ <u>63,817,750</u>

TABLE C-1J
Restoration Fund Payments – FY 2003

	<u>Power</u>	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
Repayment Factors (Target Allocation Factors)	<u>18%</u>	<u>62%</u>	<u>20%</u>	<u>100%</u>
Projected Revenues:				
Non-Discretionary Revenues:				
Pre-Renewal Charges	\$ 0	\$ 2,469,000	\$ 0	\$ 2,469,000
Tiered Water Revenues	0	0	0	0
Transfer Revenues	0	5,264,000	4,106,000	9,370,000
Friant Surcharges	0	9,943,500	556,500	10,500,000
M&I Surcharges	0	0	3,411,000	3,411,000
Total Non-Discretionary	0	17,676,500	8,073,500	25,750,000
Max Restoration Payment 1/	0	8,328,760	4,938,000	13,266,760
Subtotal	0	26,005,260	13,011,500	\$ <u>39,016,760</u>
Allocated RP Share	12,043,260	41,482,340	13,381,400	\$ 66,907,000 2/
RP Revenues in Excess of Allocated Share	0	-15,477,080	-369,900	-15,846,980
RP Adjustment for Over(Under)	15,846,980	0	0	15,846,980
TOTAL	\$ <u>27,890,240</u>	\$ <u>26,005,260</u>	\$ <u>13,011,500</u>	\$ <u>66,907,000</u>
% Allocation after Adjustment	<u>41.69%</u>	<u>38.86%</u>	<u>19.45%</u>	<u>100.00%</u>

RP = Restoration Payment

1/ Maximum Restoration Payment:

	<u>Irrigation</u>	<u>M&I</u>	<u>Total</u>
'03 Est. Paid Water Deliveries (AF)	1,012,000	300,000	1,312,000
Maximum Rate per AF	\$ 8.23	\$ 16.46	
Maximum Amount	\$ <u>8,328,760</u>	\$ <u>4,938,000</u>	\$ <u>13,266,760</u>

2/ Maximum Discretionary Revenues
Projected Non-Discretionary Revenues

	\$ 41,157,000
	25,750,000
Total	\$ <u>66,907,000</u>

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER
AGENCY, *ET AL.*,

Plaintiffs,

v.

No. 14-817C
(Judge Tapp)

THE UNITED STATES,

Defendant.

EXPERT DISCLOSURE

Pursuant to Rule 26(a)(2)(C) of the Rules of the United States Court of Federal Claims (RCFC), defendant, the United States, makes the following disclosures of expert testimony. This disclosure is based upon information reasonably available to us, and we reserve the right to supplement it as we obtain additional information.

The Government may call Spencer Walden to provided testimony concerning the how the Government calculated damages. Mr. Walden's opinions are based upon his experience as an accountant with the Bureau of Reclamation. Mr. Walden is currently a Refuge Water Supply Specialist in the Bay-Delta Office within the California-Great Basin Region of the Bureau of Reclamation, Department of the Interior. Prior to that, Mr. Walden was the CVPIA Accountant in the Financial Management Division of the California-Great Basin Region since joining the Bureau of Reclamation in 2017. He holds a bachelor's degree from San Francisco State University.

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In general, the damages amount is the difference between what was paid and what should have been paid. What was paid by power during FY2008 to FY2020 was \$332,842,422. During those years, the plaintiff's percentage of Base Resource¹ varied from approximately 39% (FY2008 to FY2014) and approximately 42% (FY2015 to FY2020). By applying those percentages annually to the amount collected annually, the plaintiff's payments totaled \$136,514,622.

In order to calculate the amount that should have been paid, first Mr. Walden will describe the methodology consistent with the court's opinion, then, calculate the annual amount and apply the Base Resource percentages on an annual basis. For determining power's M&R payment, Reclamation will apply the appropriate allocation percentage identified from the ten-year rolling average for repayment of the CVP to actual water receipts, inclusive of both discretionary payments and non-discretionary payments using a two-year lag. The mathematical equation is as follows: $((\text{Water CVP Restoration Fund receipts} + \text{Friant Surcharge receipts}) / \text{Water's CVP \%}) * \text{Power's CVP \%}$.

Power's M&R payment uses the two-year lag for several important reasons. To set bills for the upcoming fiscal year, WAPA needs the power M&R payment information in August of preceding fiscal year. The allocation percentages provided by the regional economist are not available until six to nine months following the close of the federal fiscal year (September 30). Additionally, water receipts are not known until after the fiscal year closes. Therefore, Reclamation is unable to determine power's share

¹ Provided by Autumn Wolfe, the Rates Manager at the Sierra Nevada Region – Western Area Power Administration and subsequently produced in response to Request for Production 3-1.

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of the M&R fund in the fiscal year until the year closes. For example, for fiscal year 2021, Reclamation must send a letter notifying WAPA of power's M&R payment in August 2020. To determine power's M&R payment for fiscal year 2021, Reclamation uses allocation data from FY2010 – FY2019, (the most recent 10-year average allocation for repayment of CVP) and actual water cash receipts from FY2019 (the most recent data for water receipts).

CVPIA Section 3407(d)(2)(A) states “taking into account all funds collected under this title,” based on the language the calculation includes all sources of water receipts under the Act, inclusive of pre-renewal charges, tiered water rates, water transfer charges, Friant surcharges, M&I surcharges, and mitigation and restoration charges. Although Friant surcharges ceased to be deposited into the CVP Restoration Fund following FY2009, those receipts are still included in the calculation of total water collections based on Section 100007 of Pub. L. 111-11 which states:

“(1) The Secretary shall continue to assess and collect the charges provided in section 3406(c)(1) of the Reclamation Projects Authorization and Adjustment Act of 1992 (Public Law 102-575; 106 Stat. 4721), as provided in the Settlement; and”
 “(2) those assessments and collections shall continue to be counted toward the requirements of the Secretary contained in section 3407(c)(2) ...”

Applying the above method to the period in this case, FY2008 to FY2020, starts with the actual receipts collected from water in FY2006 and the allocation data from FY1997 to FY2006. Continuing this process for all applicable years totals \$167,589,580. Using the same Base Resource percentages as above, the plaintiff's percentage share of this totals \$68,359,711.

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The difference between the actuals at the top and the revised calculation consistent with the Court's opinion results in a total damage amount of \$68,154,911.

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General

MARTIN F. HOCKEY, JR.
Acting Director

/s/ Franklin E. White, Jr.

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August 12, 2021

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER AGENCY, ET AL.,

Plaintiffs,

v.

THE UNITED STATES,

Defendant.

Case No. 14-817C

Expert Report of
Wiley R. Wright, III CPA
August 12, 2021

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(Recomputed)

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I. INTRODUCTION AND SCOPE OF WORK

1. My name is Wiley R. Wright, III. I have been retained by the plaintiffs in this case—Northern California Power Agency (NCPA) and the Cities of Redding, Roseville, and Santa Clara, California—to provide my opinions about the methods and data to use to compute damages in this case. I also have been asked to perform and present the necessary damage calculations.
2. For my analysis and testimony, I will be compensated at my usual hourly rate of \$350.
3. The Cities of Redding, Roseville, and Santa Clara are members of NCPA, and in this report I sometimes refer to the plaintiffs collectively as NCPA.
4. As discussed below, this is an overcharge case. In 2014, the plaintiffs filed a complaint¹ alleging that the United States imposed charges on them—called “mitigation and restoration” (M&R) payments—that exceeded the amounts authorized by the Central Valley Project Improvement Act (CVPIA). The trial court dismissed the complaint,² but the court of appeals reversed that judgment³ and agreed with the plaintiffs that the CVPIA imposes a binding proportionality limitation on the charges for which plaintiffs properly could be held responsible. Under the CVPIA, M&R payments (and sometimes other payments) are assessed against entities that contract for water sold and delivered by the Central Valley Project (CVP or Project) and customers (of whom plaintiffs are a subset) that contract for hydroelectric generation capacity and energy. The CVPIA requires that the M&R payments imposed on CVP water and power customers should be assessed, to the greatest degree practicable, in the same proportion measured over a ten-year rolling average as water and power customers’ respective allocations of responsibility to repay CVP costs. The United States, however, did not abide by that limitation and instead imposed disproportionate charges upon the plaintiffs and other power contractors. NCPA has asked me to quantify the proportionate amounts that the United States should have charged during the relevant period and the disproportionate excess that it actually charged, which the Government should pay as damages.

¹ Compl., *N. Cal. Power Agency v. United States*, 139 Fed. Cl. 74 (2018) (No. 14-817C).

² *N. Cal. Power Agency v. United States*, 139 Fed. Cl. 74 (Ct. Fed. Cl. 2018).

³ *N. Cal. Power Agency v. United States*, 942 F.3d 1091 (Fed. Cir. 2019).

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5. As part of my analysis of NCPA's damages in this matter, I have reviewed the defendant United States' preliminary damage calculations, which are contained in its fact discovery materials. However, the defendant has explained that it will present the details of its calculations and assumptions in its expert report and expert discovery. This report does not address the Government's preliminary damages calculation except to point out that it appears to be based on inappropriate after-the-fact adjustments to the cost allocations that were in effect when the charges at issue were imposed. I anticipate addressing in my rebuttal report the particulars of the adjustments and calculations presented in the Government's expert report.

II. EXPERT QUALIFICATIONS AND PREVIOUS TESTIMONY

6. I am the National Practice Leader of BDO's Construction and Environmental Solutions Practice and a certified public accountant (CPA) licensed by the Commonwealth of Virginia. I have provided analysis and consultation on a wide variety of damage issues relating to litigation matters during my forty-plus-year career in public accounting and consulting. A copy of my resume, setting forth further details including my prior testimony and publications, is included as Attachment I to this report.
7. I have given expert accounting and damages testimony on over 150 occasions, both in depositions and in trial proceedings, in the areas of damage methodologies and calculations in connection with construction contract disputes, cost recovery actions, federal and state government contract disputes, cost accounting matters, economic damages and forensic investigations. I have been qualified as an expert and have testified before numerous federal and state courts, federal and state boards of contract appeals, and domestic and international arbitration panels.
8. In addition to litigation and expert witness services, I have over 40 years of experience consulting on construction and government contract matters. With respect to construction projects, I have significant experience with: Airports, Oil and Gas Facilities and Pipelines, Bridges and Tunnels, Industrial Facilities, Nuclear, Gas and Coal Fired Power Plants, Military and Commercial Launch Facilities, Waste Water Treatment Facilities, Jails and Prisons, Stadiums, Aqueducts, Subway and Transit, and Highways and Roads.

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9. With respect to government contract matters, I have over 40 years of experience with Federal Acquisition Regulation compliance, Requests for Equitable Adjustment, Certified Claims, Termination for Convenience claims, false claim and fraud investigations, and other economic damage matters.
10. With respect to the Bureau of Reclamation, I have experience analyzing the Bureau's accounting systems, allocation methodologies and cost records.
11. I co-authored a chapter entitled "Damages in Construction Arbitrations" included in the 2016 book *The Guide to Damages in International Arbitration* published by Law Business Research Ltd, London. I also co-authored a chapter entitled "Types of Financial Reports and Opinions Issued by CPAs and Applicable Professional Standards" included in the 2010 book *Construction Accounting – A Guide for Attorneys and Other Professionals* published by the American Bar Association Forum on the Construction Industry. I also co-authored an article published in the Maryland Association of Certified Public Accountants *CPA Statement* entitled, "Professional Standards Applicable to Litigation Support." I have taught courses and given presentations on financial and economic damages before a variety of professional groups, including the Colorado Society of Certified Public Accountants, the American Bar Association, and the Virginia Bar Association. I am a graduate of George Mason University.
12. I am responsible for the services performed and the opinions given herein and have personally rendered or reviewed the analysis performed by the members of our staff with respect to them. Use of the words "I", "my", "we", and "our" throughout this report means myself and the BDO professionals working under my direction and supervision.
13. All work performed by BDO was completed in accordance with the American Institute of Certified Public Accountants (AICPA) Statement on Standards for Forensic Services.⁴ These standards require, in part, that the practitioner obtain sufficient relevant data to afford a reasonable basis for conclusions or recommendations in relation to any professional services provided. I have done so for the work performed and opinions expressed herein.
14. The documents, data and information that I considered in performing my analysis are the types of documents, data and information that experts in my field typically consider and rely upon in performing similar damages engagements.

⁴ Statement on Standards for Forensic Services (SSFS) No. 1 (FS sec. 100).

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III. FACTUAL BACKGROUND

A. THE CENTRAL VALLEY PROJECT

15. The CVP is a single, financially and operationally integrated multipurpose water resources project operated by the United States Bureau of Reclamation (Bureau or Reclamation) that supplies water to more than 200 long-term water contractors in the Central Valley, the San Francisco Bay Area, and the Santa Clara Valley. The Project's facilities and service areas cover a large geographic area including 35 of California's 58 counties.
16. The CVP has eight authorized purposes: water supply, power, flood control, water quality, recreation, navigation, fish and wildlife enhancement, and fish and wildlife mitigation.
17. The water supply function involves storing and delivering water to be used for agricultural irrigation (Irrigation) or municipal and industrial (M&I) purposes.
18. The power function involves generating and transmitting electric energy that is either used for project purposes (e.g., water pumping) or sold to electric power purchasers (commercial power). In this report, when I refer to the power function, power users, or power contractors, I mean commercial power. The plaintiffs are power contractors. During the damages period at issue here, the plaintiffs purchased and paid for roughly 40 to 42 percent of all CVP power sold to CVP power contractors.
19. Project facilities include dams and reservoirs, water pumping plants, and canals, aqueducts, and other facilities used to deliver water. They also include hydroelectric power plants and transmission lines used to produce and deliver the CVP generating capacity and electric energy sold to CVP power contractors.
20. The United States incurred the costs to construct the CVP facilities. Water and power contractors reimburse the United States Treasury for a portion of those costs.
21. The Bureau operates the CVP and contracts directly with Irrigation and M&I water users. There are two types of contracts: water service contracts and repayment contracts. Repayment contracts require contractors to repay specific cost amounts over fixed time periods, without regard to how much water is available or delivered. Water service contracts require the contractors to pay rates based on the amount of water delivered. Rates under both types of contracts are also calculated to ensure adequate contributions to the repayment of

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project costs. Regardless of the form of contract for repayment of CVP costs, water customers pay M&R charges based on the amounts of water delivered.

22. Commercial power users contract with the Western Area Power Administration (Western or WAPA), which acts as billing agent for the Bureau. The Bureau annually determines the total amount of money that must be collected from power users each year to cover their share of Project operation and maintenance (O&M) expenses, repayment of Project capital costs by the end of the repayment period, and the M&R payments at issue in this case. The Bureau informs Western of the revenue requirement for each year, and Western collects the money from each power contractor in proportion to the contractor's fixed percentage share of CVP electric output as established in Western's contracts with the power customers.⁵ Power contractors are required to pay the M&R payment amounts regardless of how much electricity actually is delivered.
23. The United States has performed cost allocation studies at intervals over the years to determine how to allocate Project costs among the authorized purposes and, if needed, how to sub-allocate costs among users within a purpose (e.g., dividing water supply costs among Irrigation and M&I water users). One particular study is relevant to calculating damages in this case. That is the "Central Valley Project California Reallocation of CVP Costs, FY 1969-70"⁶ as updated by a Bureau of Reclamation Memo entitled "Changes Caused by the Reallocation of the Central Valley Project Costs" (March 8, 1976).⁷ That study was the one in effect during the damage period relevant here, which Counsel informs me runs from fiscal year (FY) 2008 through FY 2020. In 2001, the Bureau prepared another study entitled the "Central Valley Project Cost Allocation Study" (May 2001).⁸ That study was never finalized, as Reclamation determined at that time that the "[then-]existing allocation is the preferred allocation method and will continue to use it for CVP plant-in-service allocations."⁹

⁵ The Western contracts refer to this fixed percentage share of CVP output as the contractor's "Base Resource Percentage."

⁶ Defendant produced a copy of this study in discovery with Bates Nos. GOV0000125 through GOV0000446.

⁷ Defendant produced a copy of this study in discovery with Bates Nos. GOV0000105 through GOV0000124.

⁸ Defendant produced a copy of this study in discovery with Bates Nos. GOV0000605 through GOV0000731.

⁹ Memorandum from Kirk C. Rodgers, Acting Reg'l Director, U.S. Dep't of Interior, Bureau of Reclamation, regarding Central Valley Project Cost Allocation Study, May 2001 (June 25, 2001) (GOV0000606).

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24. The United States also performs annual cost allocation updates applying the principles and allocation factors from the then-current cost allocation study to annual plant-in-service balances.
25. The studies and annual updates together produce annual computations of the CVP costs allocated to water and power users for eventual repayment. The studies and updates inform the annual setting of rates for water service contracts and power contracts with Western, as well as the negotiation of longer-term repayment contracts.
26. In January 2020, the United States issued another cost allocation study titled the “Central Valley Project Final Cost Allocation Study.”¹⁰ The study was issued in the middle of FY 2020 and was not used in setting rates for that year.¹¹ The Bureau first used the study to set rates beginning with FY 2021. In discovery, the United States was asked to identify each instance in which it “revised, rebilled, credited, surcharged, or otherwise adjusted the CVP repayment amount previously paid by a CVP Water User or CVP Power User.” The United States responded that:

Water contractor repayment is only adjusted when an error occurs. The agency makes adjustments based on reconciliations only when an error in repayment has been identified. Reconciliations take place on an ongoing basis. Power contractor repayment is performed by WAPA. The sole purpose of an adjustment is to demonstrate errors in entering and accounting for how payments are credited.¹²

B. THE CENTRAL VALLEY PROJECT IMPROVEMENT ACT

27. In 1992, to offset the environmental impacts from the Central Valley Project, Congress passed the Central Valley Project Improvement Act (CVPIA). As part of the CVPIA, Congress created a fund designated as the “Restoration Fund” to be used to restore fish and wildlife habitats within the Central Valley Project.¹³ To raise money for the Restoration Fund, Congress directed the Secretary of the Interior (the Secretary) to assess several types of charges to CVP water and power customers. The M&R charge is at issue in this case.

¹⁰ Defendant produced a copy of this study in discovery with Bates Nos. GOV0000447 through GOV0000604.

¹¹ The fiscal year for the federal government begins on October 1 and ends on September 30.

¹² See Def.’s Resp. to Pl.’s Interrog. No. 21.

¹³ *N. Cal. Power Agency v. United States*, 139 Fed. Cl. 74, 77 (2018).

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28. CVPIA section 3407(d)(2)(A)¹⁴ sets limits on the amounts of M&R payments to be assessed to water and power users. For example, the Secretary may not charge more than \$6 per acre-foot for agricultural water and \$12 per acre-foot for M&I water sold and delivered by the Central Valley Project. (These and other dollar amounts in the CVPIA are stated in October 1992 price levels; accordingly, the Bureau adjusts the dollar amounts annually to account for inflation.)
29. CVPIA section 3407(d)(2)(A) also provides that the M&R payments assessed to water and power users should be proportional to their responsibility for repayment of the CVP on a ten-year rolling average basis. Specifically, the statute states that: “the amount of the mitigation and restoration payment made by Central Valley Project water and power users, taking into account all funds collected under the Act, shall, to the greatest degree practicable, be assessed in the same proportion, measured over a ten-year rolling average, as water and power users’ respective allocations for repayment of the Central Valley Project.”¹⁵ In this report, I refer to this as the proportionality limitation.
30. Section 3407(d)(2)(A) also states that total M&R payments—whether paid by water users or power users—shall not exceed \$30 million per year on a three-year rolling average basis. Upon the completion of certain activities required by the statute, that cap will be reduced to \$15 million per year.

C. THE CURRENT LITIGATION

31. I understand that, despite the proportionality limitation, the defendant historically prioritized collecting \$30 million in annual M&R payments on a three-year rolling average basis. I further understand that because the amount collectable from water users was limited by law and hydrology and often fell short of the water users’ proportional share, the defendant charged to power users the difference between the water users’ payments and \$30 million. As a result, the amounts charged to power users often exceeded their proportional shares.
32. In 2014, plaintiffs filed a lawsuit in the U.S. Court of Federal Claims, alleging that the United States had charged them excessive M&R payments. The court agreed with the defendant’s

¹⁴ Central Valley Project Improvement Act, Pub. L. No. 102-575, 106 Stat. 4727-28 (1992).

¹⁵ CVPIA section 3407(d)(2)(A).

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view that the CVPIA allowed the Bureau to prioritize collections over proportionality and to adopt its power-pays-the-difference policy, and dismissed the complaint.¹⁶

33. The U.S. Court of Appeals for the Federal Circuit reversed that determination, and held that “[t]he proportionality requirement . . . takes priority over” the statute’s collection target.¹⁷ The court of appeals remanded the case to the Court of Federal Claims for calculation of damages.
34. In discovery after the remand, plaintiffs’ interrogatory number 17 asked the defendant to provide its calculation of the damages owed and the bases for that calculation. The United States answered, in part, that “[t]he amount of damages owed is the difference between the calculated amount consistent with the Federal Circuit’s opinion in *NCPA v United States* and what was actually paid. That amount is \$68,154,911.” The United States provided some explanation of the basis for its calculation, but added that it would “disclose the details of our damages calculation and the assumptions underlying that calculation during the expert discovery phase of this litigation.”¹⁸ As explained below, I agree that damages here are the difference between what plaintiffs actually paid and what they should have paid had proportionality been applied as a binding limitation during the damages period. I disagree with the defendant’s preliminary calculations of what plaintiffs should have paid and their damages.

IV. SUMMARY OF OPINIONS

35. I have quantified plaintiffs’ damages for the period FY 2008 through FY 2020 by comparing the actual amounts they paid to the amounts they should have paid during the damages period applying proportionality.
36. To determine the proportional ratios of water and power M&R payments, I relied on a joint exhibit introduced during the liability phase of this case showing calculations of water users’ and power users’ respective allocations for repayment of CVP capital costs during the damages period. Specifically, I relied on a document that was introduced into evidence

¹⁶ See *N. Cal. Power Agency v. United States*, 139 Fed. Cl. 74 (2018).

¹⁷ *N. Cal. Power Agency v. United States*, 942 F.3d 1091, 1098-99 (Fed. Cir. 2019).

¹⁸ Def.’s Resp. to Pl.’s Interrog. No. 17.

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during the 2018 trial before the Court of Federal Claims as “Joint Exhibit 2,”¹⁹ which provided those amounts for rolling ten-year periods through the period ending with FY 2015. As the exhibit title indicates, these data were jointly sponsored by both the plaintiffs and the defendant. I also relied on defendant’s response to plaintiffs’ interrogatory 25, which provided corresponding ten-year amounts through the period ending with FY 2019. I also checked those amounts against—and ran alternative damages calculations using—the annual cost allocations that the Bureau produced during the damages period based on the 1970 study (as updated in 1976), which produce ten-year sums and percentages that agree closely with the numbers in Joint Exhibit 2 and interrogatory response 25.²⁰ I find that Joint Exhibit 2 and the defendant’s response to interrogatory 25 are the most appropriate and least speculative measures of the proportionality limitation that should have applied during the damages period.

37. Using the percentages from Joint Exhibit 2 and interrogatory 25, I computed the power M&R payments that would have been proportional to water users’ M&R payments, and ensured that the sums of those amounts would not have exceeded the statutory cap of \$30 million per year (October 1992 price levels) on a three-year rolling average basis. I thus conclude that these amounts reflect what power contractors should have paid during the damages period.
38. As noted above, damages in this case are the difference between what plaintiffs actually paid and what they should have paid had proportionality been applied during the damages period. Using these data and this method, I compute damages as follows:²¹

Damages computed using Joint Exhibit 2 and interrogatory response 25	Damages computed using then-contemporaneous annual cost allocations
\$81,872,385	\$82,231,012

I calculated these amounts by finding the level of power M&R payments each year that would have been proportional to the M&R payments by water users during the same year.

39. The preliminary damage calculation produced by defendant in response to interrogatory 17 (Bates No. GOV0000002) takes a different approach: it calculates the level of power M&R

¹⁹ *10-Year Rolling Average of CVP Restoration Fund (ALL YEARS), Receipts for Irrigation, M&I, and Commercial Power, Central Valley Project*, Bates No. DEF-PROD-00188930 (Ex. 2).

²⁰ See Attachment III, Schedules 2 & 4 to this report.

²¹ See Schedules 1 & 2.

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payments that would have been proportional, in defendant's view, to the M&R payments by water users two years earlier. The so-called "two-year lag" was adopted by Reclamation for use in calculating power contractor M&R charge payments on a going-forward basis, beginning in FY 2021. Counsel has asked me to prepare an alternative damages calculation using that approach. Using the two-year-lag method, the corresponding damages amounts are:²²

Damages computed using Joint Exhibit 2 and interrogatory response 25	Damages computed using then-contemporaneous annual cost allocations
\$85,990,156	\$85,962,400

I find that for damages purposes the current-year calculation is more consistent with the statutory text and historical practice, as Reclamation was not employing a two-year lag to calculate power contractor CVPIA charges during the damages period. I express no opinion regarding the use of the two-year lag for going-forward purposes.

40. In discovery, the defendant acknowledged that it charged plaintiffs more than it should have charged consistent with the Federal Circuit's opinion in *N. Cal. Power Agency v. United States* and stated that the difference—the "damages owed"—was \$68,154,911.²³ I find that this amount is significantly understated and reflects the use of erroneous and inappropriate inputs.
41. Most importantly, the Government's preliminary calculation uses incorrect proportionality percentages. The Government derives those percentages by making certain adjustments to the annual CVP cost allocation updates that were prepared each year during the damages period. The changes to these historical figures appear to reflect a retroactive application, solely for purposes of performing damage calculations, of cost allocation changes adopted prospectively in the 2020 cost allocation study. As discussed below, I believe those changes are inappropriate and unduly speculative because they were not in effect during the damages period, and the Government has said it does not plan to apply them retroactively to recalculate and rebill contractors' past CVP repayment amounts.²⁴ Nor does the Government plan to apply these percentages retroactively to revise and rebill contractors' past M&R

²² See Schedules 3 & 4

²³ See Def.'s Resp. to Pl.'s Interrog. No. 17.

²⁴ See Def.'s Resp. to Pl.'s Interrog. No. 21.

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payments.²⁵ Accordingly, as I explain below, my opinion is that these percentages should not be applied retroactively to calculate plaintiffs' damages.

42. In discovery, the Government provided partial explanations of some of its adjustments but stated that "[w]e will disclose the details of our damages calculation and the assumptions underlying that calculation during the expert discovery phase of this litigation."²⁶ I will comment on the merits of the specific adjustments when I have reviewed the details of the Government's damages calculation and assumptions provided in its initial expert report.

V. BASES FOR OPINIONS

43. In this section, I provide the bases for my opinions.

44. This case concerns the amount of overcharges that the Bureau collected from the plaintiffs.

The parties seem to be in agreement that this amount should be calculated as the difference between what plaintiffs actually paid and what they should have paid during the damages period had the Bureau implemented the statutory proportionality requirement. Plaintiffs pay fixed percentages of the M&R payments assessed to all power contractors. Accordingly, I have calculated the dollar amount that all power contractors should have paid Reclamation during the damages period and compared that amount to what they actually paid during that period. Plaintiffs' damages reflect their share of power contractors' total overpayment during the damages period.

45. To avoid undue speculation, any assessment of what power contractors should have paid during the damages period should reflect the facts and circumstances that existed at the time when the charges were levied. Consequently, the relevant data needed to calculate what the defendant should have charged includes: (a) the actual, historical CVPIA receipts collected from water users for FYs 2008 through 2020; (b) the actual, historical CVPIA receipts collected from power users for the same period; and (c) the actual, historical amounts of CVP capital costs that the Bureau then determined water and power users should repay.²⁷

46. The schedules included as Attachment III to this report shows my damages calculations. Here I describe the methods and formulas used to calculate those amounts.

²⁵ See Def.'s Resp. to Pl.'s Interrog. No. 23.

²⁶ Def.'s Resp. to Pl.'s Interrog. No.17.

²⁷ If the Government's two-year lag method were adopted, the required data would go back to FY 2006.

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A. FORMULAS

47. To calculate power's total overpayment, I compare what the defendant actually charged to the proportional amount that it should have charged. The formula for computing the proportional amount can be stated algebraically as:

$$\text{Power Proportional M\&R} = \frac{\text{Water CVPIA Receipts}}{\text{Water CVP Repayment \%}} \times \text{Power CVP Repayment \%}$$

In Schedule 1, I calculate the power M&R payment amount that would be proportional to actual water CVPIA receipts for the same year.

48. In Schedule 1, actual water CVPIA receipts are set forth in columns E and F.²⁸ Power contractors' 10-year rolling average shares of CVP repayment allocations are set forth in column J. As discussed below, those percentages come from Joint Exhibit 2 and the defendant's response to interrogatory 25. The water contractors' repayment percentage is a computed amount calculated as 100% minus the power contractors' percentage. Using these inputs, Schedule 1 calculates in column K the proportional amount that power contractors collectively should have paid in each FY from 2008 through 2020. Column D sets forth the amounts that power contractors actually paid for those FYs.²⁹ Column L computes the difference between what power contractors actually paid (column D) and what they should have paid (column K) during the damages period. Columns M and N compute the plaintiffs' shares of the total overpayment by all power contractors,³⁰ and column O summarizes the result.
49. CVPIA section 3407(d)(2)(A) requires that power's M&R payments be proportional to water's payments "taking into account all funds collected under this title." Accordingly, counsel has asked me to include in "Water CVPIA Receipts" in the above formula both water contractors' M&R payments (Schedule 1, column E) and other payments that water users make under the statute (Schedule 1, column F). My damages calculations therefore reflect the inclusion of those amounts.

²⁸ Bates No. GOV0000002. While I disagree with the Government's damages computation, I do not contest their accounting of CVPIA receipts.

²⁹ Bates No. GOV0000002. While I disagree with the Government's damages computation, I do not contest their accounting of CVPIA receipts.

³⁰ This calculation uses the plaintiffs' cumulative Base Resource Percentages that were in effect when the charges were imposed. Bates No. PL_REMAND_00000347 BR Spreadsheet.

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50. The Government's preliminary damages calculations (Bates No. GOV0000002) compute purportedly proportional power payments on a two-year lagging basis. For example, for FY 2016, the defendant calculated power payments that it claimed to be proportional to water's payments for FY 2014. The defendant's calculations use CVP repayment percentages for the ten-year period ending in the same FY as the water receipts—in this example, for FYs 2005 through 2014.
51. I understand that the Bureau adopted this method after the court of appeals decision, and used it to calculate proportional charges to be collected from power contractors for FY 2021. My understanding is that the Bureau intends to continue using the lagged method going forward.
52. Before FY 2021, the defendant calculated power's CVPIA charges using its power-pays-the-difference method. The defendant applied that method on a current-year basis. In other words, the defendant set power's CVPIA charges for a given year based on the difference between the \$30 million target (1992 dollars) and water's M&R payments for that year. The Bureau set charges preliminarily based on projected water receipts for the year, and then performed a true-up when actual water receipts for the year were known. I find it reasonable in calculating damages to apply proportionality the same way—on a current-year basis consistent with the Bureau's historical approach for imposing CVPIA charges during the damages time period. Accordingly, the soundest approach to calculating damages is to apply proportionality without any lag, so that power customers' CVPIA charges for a given year are proportional to water customers' CVPIA payments for the same year.
53. Nonetheless, I recognize that there is at least one advantage to the lagged approach for purposes of calculating damages. The defendant stated in discovery that CVP cost allocations for FY 2020 are not yet available, which makes it impossible to compute the average allocations for the ten-year period ending with FY 2020. That means damages using the current-year approach can be calculated with precision only through FY 2019; damages for 2020 must rely on an estimate of the allocation percentages for the final rolling ten-year period. On the other hand, using the lagged approach, damages can be computed precisely for the entire period; 2020 damages are based on 2018 water receipts and CVP capital cost allocations for the ten-year period ending with FY 2018.

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54. Given these circumstances, I have computed damages for the FY 2008–2020 period using both approaches. Schedule 1 shows the result using the current-year approach. As the Government maintains that cost allocation data for FY 2020 is not yet available, my current-year calculations hold the proportionality percentage constant from 2019 to 2020. Schedule 3 shows the result using the lagged approach. For the period in question, employing a no-lag approach is conservative because, based upon my calculations, damages are greater using the lagged approach.

B. PROPORTIONAL PERCENTAGES

55. A key input into the damages calculation formula above is the “Power CVP Repayment %.” This percentage reflects power contractors’ collective share of “water and power users’ respective allocations for repayment of the Central Valley Project” on a ten-year rolling average basis. For example, in the current-year proportionality method, power contractors’ M&R responsibility for 2015 is calculated using a proportionality percentage that reflects the ratio of power users’ repayment allocations for the ten-year period 2006 through 2015 to the total of power and water users’ repayment allocations for the same period.

Joint Exhibit 2 and defendant’s response to plaintiffs’ interrogatory 25

56. During the 2018 trial in this case, the parties jointly introduced, and the court admitted into evidence (*see* Jan. 16, 2018 Tr. at 121), a document labeled Joint Exhibit 2. The document is titled “10-Year Rolling Average of CVP Restoration Fund (ALL YEARS) Receipts for Irrigation, M&I, and Commercial Power Central Valley Project,” and includes two tables. The first sets forth the annual CVPIA receipts paid by Irrigation, M&I Water and Commercial Power contractors through FY 2016, the annual totals of those receipts, and the percentages paid by each category during rolling ten-year periods. The second sets forth the ten-year sums of CVP capital costs allocated to those entities during rolling ten-year periods ending with FY 2015, the totals of those amounts for each period, and the percentage borne by Irrigation, M&I Water, and Commercial Power contractors during those periods.

57. Joint Exhibit 2 bears Bates number DEF-PROD-00188930, and was produced by the Government as a native Excel file with the file name “Interrogatory & Production Items 1.zip? Production #5\10year RA ALL YEARS thru FY2016.xlsx.” The ten-year capital cost sums at the bottom of Joint Exhibit 2 agree with annual capital cost allocations provided in

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another document produced by the Government with an adjacent Bates number (DEF-PROD-00188929) titled “Weighted Average and 10-Year Rolling Average of Repayment Obligations for Irrigation, M&I Water, and Commercial Power, Central Valley Project, FY 1993-2015.”

58. At trial, defendant’s witness Gail Trujillo-Bixby agreed that Joint Exhibit 2 represents “the ten-year rolling average assessment of collections and repayment allocation[s]” (*see* Jan. 17, 2018 Tr. at 322:23–323:12.)³¹ And she agreed that “that’s what the restoration fund says in terms of how the repayment allocation should be measured for proportionality if they’re on the ten-year rolling average basis.” Jan. 17, 2018 Tr. at 323:13–17.
59. In discovery after the remand, plaintiffs asked the Government to explain how the dollar amounts and percentages in Joint Exhibit 2 were derived. The Government explained that “[f]or each 10-year period listed in JX2, the capital costs shown is the sum of allocated capital costs over the preceding 10 years for Irrigation, M&I and Commercial Power, respectively,” reflecting the summation of annual amounts “derived from the CVP annual plant-in-service allocation.”³² The Government further explained that the annual plant-in-service allocation “allocates all capital costs across the authorized purposes of the CVP and further sub-allocates water supply and power costs in order to assign costs for repayment by Irrigation, M&I, and Commercial Power.”³³ The Government stated that the percentages in Joint Exhibit 2 represent “the proportion of total reimbursable costs over that 10-year period for Irrigation, M&I and Commercial Power.”³⁴
60. Accordingly, I conclude that Joint Exhibit 2 represents the parties’ acknowledged calculation of water and power users’ respective allocations for repayment of the Central Valley Project on a ten-year rolling average basis through FY 2015 based upon the Bureau’s actual, historical CVP cost allocations for power and water users.
61. In discovery after remand, in response to plaintiffs’ interrogatory 25, the Government produced corresponding data calculated on the same bases for the ten-year periods 2007–2016 through 2010–2019.³⁵

³¹ Defendant’s witness David Mooney testified similarly. Jan. 18, 2018 Tr. at 663:13–24.

³² Def.’s Resp. to Pl.’s Interrog. No. 26.

³³ *Id.*

³⁴ *Id.*

³⁵ *See* Def.’s Resp. to Pl.’s Interrog. No. 25.

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62. I conclude that these documents provide the ten-year rolling average percentages that should be used for calculating damages and most likely would have been used to compute the M&R payments had proportionality been applied during the damages period.

The Bureau's annual CVP cost allocation spreadsheets

63. In our analysis, we also attempted to derive proportionality percentages directly from the annual CVP cost allocation spreadsheets produced by the defendant in discovery.

64. For the years up through 2015 we used a series of Excel workbooks with Bates numbers GOV0004130-GOV0004153. These workbooks are identified as CVPIA Croffset Allocation Percentages (Croffset workbooks), although none carry a metadata file name beyond the Bates numbering system. Each file was prepared to capture a single FY of data beginning with 1995 through 2019. The Government's response to plaintiffs' interrogatory 26 pointed us to worksheet W in those workbooks. The range of data provided covered the necessary periods needed to compute the requisite ten-year averages through 2015.

65. Additionally, in discovery the defendant produced the inputs for the years 2016-2019 in a series of Excel workbooks with Bates numbers beginning with GOV0001074 through GOV0001098. Similar to the Croffset workbooks, each file represented a single FY. The data received covered the FYs beginning 1995 through 2018, and the data for 2019 has not been provided. Each of the workbooks contained an input sheet page with the contents noted as CVP Cost Allocation Study. We located data that was similar on worksheet W of each of the workbooks that was titled Summary of Repayment Obligations, Plant in Service Investment.

66. Based on our review of the workbooks, it appears to us that Joint Exhibit 2 and the data produced in response to interrogatory 25 generally reflect—as they should—the Bureau's total CVP plant-in-service amounts allocated to Irrigation, M&I Water, and Commercial Power each year, as reflected in those workbooks,³⁶ without the post hoc adjustments the Government made in its preliminary damages calculation.

67. We were not able to reconcile Joint Exhibit 2 and the response to interrogatory 25 with the workbooks completely, but the differences are not large enough to produce material differences in our damages calculation. On a current-year proportionality basis, damages

³⁶ The total allocations to Irrigation, M&I Water, and Commercial Power users can be found in worksheet W of the annual cost allocation workbooks. For example, cell L117 in worksheet W of the 2010 workbook (Bates No. GOV0004140) shows a total allocation to Irrigation Water Users of \$1,534,677,644.23.

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calculated using percentages from Joint Exhibit 2 and interrogatory response 25 are \$81,872,385,³⁷ while damages produced using percentages based on the annual workbook allocations are \$82,231,012.³⁸

C. REJECTION OF RECALCULATED PERCENTAGES BASED ON POST HOC ADJUSTMENTS

68. Any computation of amounts that should have been charged under the CVPIA should be tested for reasonableness and appropriateness of the inputs on which those calculations are based. The Government's initial damage calculation (Bates No. GOV0000002) fails that test because it uses ahistorical proportionality percentages that are calculated based on inappropriate post hoc adjustments to the cost allocation amounts and percentages calculated during the damages period.
69. The Government's initial damages calculation uses ten-year rolling average percentages that differ substantially from the percentages shown in Joint Exhibit 2 and provided in response to interrogatory 25.

³⁷ See Schedule 1.

³⁸ See Schedule 2.

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10-Year Rolling Average of Commercial Power
Comparison of JX2 Percentages to GOV0000002
Central Valley Project

	(A) JX2 Percentages	(B) GOV0000002	(C) Percentage Increase (2)
FY 1999 - 2008	22.388%	28.13%	25.64%
FY 2000 - 2009	22.681%	28.43%	25.33%
FY 2001 - 2010	23.056%	28.87%	25.22%
FY 2002 - 2011	23.661%	29.52%	24.78%
FY 2003 - 2012	24.244%	30.21%	24.60%
FY 2004 - 2013	24.794%	30.82%	24.31%
FY 2005 - 2014	25.402%	31.49%	23.97%
FY 2006 - 2015	26.006%	32.14%	23.58%
FY 2007 - 2016	26.580%	32.72%	23.11%
FY 2008 - 2017	27.130%	33.29%	22.69%
FY 2009 - 2018	27.690%	33.71%	21.73%
FY 2010 - 2019	28.240%	34.12%	20.81%
FY 2011 - 2020 (1)	-	-	-

(1) 2020 data currently not provided

(2) Percentage increase computed as $(B) - (A) = (X)$; $(X)/(A)=C$

70. The new percentages overstate the share of CVP capital costs for which power contractors were considered to be responsible during the damages period. Consequently, the new percentages overstate the amount of M&R payments for which power contractors would have been responsible had proportionality been applied during the damages period in accordance with the Bureau's then-applicable cost allocation study.
71. The Government's new proportionality percentages appear to be based on post hoc adjustments to the contemporaneous cost allocations developed during the damages period. The adjustments are discussed in the Government's response to interrogatory 19 and documents cited therein, and are implemented in Excel files (Bates Nos. GOV00000960 and GOV0004130–GOV0004153) used to derive the Government's purported proportionality percentages.

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72. In my view, no post hoc adjustments are appropriate because damages should reflect the charges that plaintiffs would have paid had the Bureau applied proportionality during the damages period based on then-extant data and the cost allocation studies and policies in effect at the time.
73. As explained above, I will comment on specific adjustments in my rebuttal report when I have reviewed the detailed calculations and assumptions underlying those calculations, which the Government has said it will provide during the expert discovery phase.

D. BASE RESOURCE PERCENTAGES

74. Plaintiffs' damages are their share of the excess charges imposed on all CVP power contractors during the damages period. The Bureau computes the annual M&R payment responsibility for all power contractors, and Western, as agent for the Bureau, divides that amount and assesses charges to each CVP power contractor in proportion to that contractor's entitlement share of CVP power (i.e., its Base Resource Percentage). In computing plaintiffs' damages, I relied on Base Resource Percentages provided by NCPA.³⁹ The percentages I used are:

³⁹ Bates No. PL_REMAND_00347.

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Customers	Base Resource % (2004 - 2015)	Base Resource % (2015 - 2024)
Northern California Power Agency (summary)	17.53465%	18.87958%
Alameda Municipal Power (1.08075%, 1.20622%)		
City of Biggs (0.27889%, 0.29542%)		
City of Fallon (0.22100%, 0.27798%)		
City of Gridley (0.62417%, 0.66118%)		
City of Healdsburg (0.18594%, 0.25146%)		
City of Lodi (0.49049%, 0.56931%)		
City of Lompoc (0.25559%, 0.32263%)		
Port of Oakland (OBRA Contract) (0.13280%, 0.14068%)		
Port of Oakland (0.43825%, 0.46423%)		
City of Palo Alto (11.62024%, 12.30917%)		
Plumas-Sierra Rural Electric Cooperative (1.66003%, 1.75845%)		
Truckee Donner Public Utility District (0.22000%, 0.27700%)		
City of Ukiah (0.32650%, 0.34585%)		
City of Redding (summary) (1) (2)	8.49986%	9.00085%
Redding Rancheria (0.03700%, 0.03626%)		
City of Shasta Lake (0.76030%, 0.80537%)		
City of Roseville	4.58170%	4.85333%
City of Santa Clara, dba Silicon Valley Power	9.06592%	9.60341%
Total Base Resource Percentage	39.68213%	42.33717%
Notes:		
Data excerpted from PL_REMAND_00000347 BR spreadsheet.xlsx		
(1) City of Redding (summary) includes Redding's allocation under Western's 2004 marketing plan.		
Pursuant to Stipulation of Agreed-Upon Facts, dated December 29, 2017, at Stipulation 9.		
(2) NCPA Member BR Share.xlsx		

VI. DOCUMENTS, DATA OR OTHER INFORMATION CONSIDERED

75. The list of documents, data or other information I considered in conjunction with this report can be found in Attachment II.

VII. CONCLUSIONS

76. Based on my knowledge, experience and the analysis discussed herein:

- A. Damages in this case are the difference between the M&R payments that plaintiffs actually paid and what they should have paid had proportionality been applied during the damages period. I have quantified plaintiffs' damages for the period of FY 2008 through FY 2020 by comparing the amounts they paid to the amounts they should have paid during the damages period applying proportionality.

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B. I find that Joint Exhibit 2 and the defendant's response to interrogatory 25 are the most appropriate and least speculative measures of the proportionality limitation that should have been applied during the damages period.

1. Damages computed using Joint Exhibit 2 and interrogatory response 25 totaled \$81,872,385.
2. Damages computed using the then-contemporaneous annual cost allocations totaled \$82,231,012.

C. Counsel asked me to calculate the damages using the two-year lag method employed by the Government in GOV0000002.

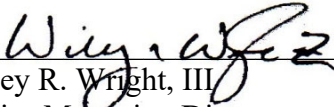
1. Damages computed using Joint Exhibit 2 and interrogatory response 25 totaled \$85,990,156.
2. Damages computed using then contemporaneous annual cost allocations totaled \$85,962,400.

I express no opinion regarding the use of the two-year lag for going-forward purposes, but I find that for damages purposes the current-year calculation is more consistent with the statutory text and historical practice than the two-year lag method.

D. The Government's computation of damages owed totaling \$68,154,911 set forth in the Government's response to interrogatory 17 is significantly understated and reflects the use of erroneous and inappropriate inputs.

E. The Government's retroactive application of the methodology utilized in the 2020 Cost Allocation Study is inappropriate because it was not in effect during the damages period.

77. The opinions expressed herein are based on the information that I have reviewed to date. I reserve the right to supplement this report as additional information is produced by the parties, including but not limited to relevant information obtained through expert discovery.



Wiley R. Wright, III
Senior Managing Director

August 12, 2021
Date

ATTACHMENT I

Resume of Wiley R. Wright, III CPA



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WILEY R. WRIGHT, III CPA

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EXPERIENCE

Wiley Wright is a Senior Managing Director and BDO's Practice Leader of the Construction & Environmental Solutions Group. Mr. Wright specializes in providing expert witness and forensic accounting services to governmental agencies, private law firms, construction contractors, and government contractors.

Mr. Wright's work includes change order pricing and reviews, contract compliance reviews, preparation and evaluation of requests for equitable adjustment and/or claims for damages, fraud and false claims investigations, assessing the adequacy of accounting systems and indirect cost rate methodologies of governmental agencies, piercing the corporate veil analysis, lost profit damages expert testimony on specific damage and cost accounting issues, accounting system design and review, cost allowability and allocability determinations under federal cost principles, defective pricing reviews, contract termination pricing assistance, Qui Tam matters financial and accounting analysis, and forensic accounting investigations.

Mr. Wright has testified as an expert witness before numerous state and Federal courts, Boards of Contract Appeals, in domestic and international arbitration, and has participated in numerous mediations. Mr. Wright has provided expert testimony in over one hundred fifty matters.

In addition to his litigation and expert witness services, Mr. Wright has over forty years of experience consulting on construction and government contract matters. With respect to construction projects, Mr. Wright has significant experience with: Airports, Oil and Gas Facilities and Pipelines, Bridges and Tunnels, Industrial Facilities, Power Plants, Military and Commercial Launch Facilities, Waste Water Treatment Facilities, Jails and Prisons, Stadiums, Aqueducts, Subway and Transit, and Highways and Roads. Mr. Wright was a Partner with mid-sized public accounting firms in the Washington, DC area prior to BDO and was involved in providing audit, tax, and consulting services to clients in a variety of industries, including a heavy concentration in the government contracts and construction industries. He was responsible for performing and supervising audits, financial statement presentation, internal control reviews, and interaction with regulatory agency auditors.



WILEY R. WRIGHT, III CPA

Senior Managing Director
Practice Leader - Construction & Environmental Solutions

Mr. Wright co-authored a chapter entitled “Damages in Construction Arbitrations” included in Global Arbitration Review’s 2016 book *The Guide to Damages in International Arbitration*. Mr. Wright also co-authored a chapter entitled “Types of Financial Reports and Opinions Issued by CPAs and Applicable Professional Standards” included in the 2010 book published by the American Bar Association - Forum on the Construction Industry titled *Construction Accounting - A Guide for Attorneys and Other Professionals*. Mr. Wright coauthored an article published in the Maryland Association of Certified Public Accountants’ *CPA Statement* entitled “Professional Standards Applicable to Litigation Support.”

He has taught courses and given presentations on financial and economic damages before a variety of professional groups, including the Colorado Society of Certified Public Accountants, the American Bar Association and the Virginia Bar Association.

Mr. Wright is a CPA and is a graduate of George Mason University.

LISTING OF EXPERT TESTIMONY

PLAINTIFF	DEFENDANT	FORUM
<i>United States of America</i>	Charles George Trucking Co., et al	United States District Court for the District of Massachusetts
AWM Enterprises, Inc.	<i>Noell, Inc.</i>	Fairfax County, VA, Circuit Court
<i>United States of America</i>	Scott’s Liquid Gold	United States District Court, Colorado



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PLAINTIFF	DEFENDANT	FORUM
<i>United States of America</i>	Broderick Investment Company, Tom H. Connolly, as Trustee, and Burlington Northern Railroad Company	United States District Court for the District of Colorado
<i>United States of America</i>	Atlantic Richfield Company	Alternative Dispute Resolution
<i>United States of America</i>	Atlantic Richfield Company	United States District Court for the Eastern District of Texas
<i>Aerojet-General Corp</i>	United States Air Force	Armed Services Board of Contract Appeals
<i>United States of America</i>	Salvors, Inc., <i>et al</i>	United States District Court, Florida
<i>Noell, Inc.</i>	Los Angeles Department of Water and Power	Superior Court of California
W.R. Mollohan, Inc., <u>et al</u>	Fru-Con Construction Corp. <i>et al</i>	United States District Court, West Virginia
<i>United States of America</i>	Findett Corporation	United States District Court, Missouri
<i>United States of America</i>	DICO, Inc.	United States District Court, Missouri
Golden Bay Fence Co.	<i>Ray Wilson Co</i>	Superior Court of California, American Arbitration Association
Joe Amaral Mechanical	<i>Clark Construction</i>	United States District Court, Northern District of California
<i>Dillingham Construction</i>	County of Los Angeles	Superior Court of California
<i>United States of America</i>	ASARCO, Inc.	United States District Court, Idaho



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PLAINTIFF	DEFENDANT	FORUM
<i>United States of America</i>	Montrose Chemical Co.	United States District Court, California
<i>United States of America and the State of Colorado</i>	Robert M. Friedland, et al.	United States District Court, District of Colorado
<i>United States of America</i>	Chrysler Corporation, Ford Motor Company, et al.	United States District Court, Northern District of Ohio
E.I. Dupont	<i>United States of America</i>	United States District Court, New Jersey
<i>United States of America</i>	Tug ALLIE B, et al.	United States District Court, Southern District of Florida
<i>United States of America</i>	Sprague Energy, et al.	United States District Court, North Carolina
Kiewit Construction	<i>United States of America</i>	United States Court of Federal Claims
<i>United States of America</i>	Gurley Refining Co.	United States District Court, Arkansas
<i>United States of America</i>	W.R. Grace, et al	United States District Court, Montana
Miami Dade County	<i>United States of America</i>	United States District Court, Florida
Information Systems & Networks Corporation	<i>United States of America</i>	United States Federal Court of Claims
U.S.F.G.	<i>Dick Barton Malow, et al.</i>	United States District Court, District of Columbia
Carol AuClair	<i>Anteon Corporation</i>	Fairfax County, Virginia Circuit Court
<i>United States of America</i>	Mallinckrodt Inc., et al	United States District Court, District of Missouri
<i>United States of America</i>	ASARCO, Inc	United States District Court, Idaho



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PLAINTIFF	DEFENDANT	FORUM
Morrison Knudson International, Inc./ Contrak International, Inc. J.V.	<i>National Organization for Potable Water and Sanitary Drainage</i>	International Commercial Arbitration
Hewlett Packard	Telecom Egypt	International Commercial Arbitration
Lighthouse Electric, Inc.	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
Kirby Electric, Inc.	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
W.G. Tomko, Inc.	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
C&M Contracting, Inc.	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
Oldcastle Precast, Inc.	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
Macgregor Industries	<i>Pennsylvania Department of General Services</i>	Pennsylvania Board of Claims
<i>United States of America</i>	Jay James Jackson, et al.	United States District Court, District of Nebraska
<i>Jackson 2000 LLC, et al.</i>	American Geotech, Inc., et al.	United States District Court, Southern District of Ohio - Eastern Division
<i>United States of America</i>	RSR Corporation, et al.	United States District Court, Washington
<i>United States of America</i>	Dominick Manzo, et al.	United States District Court for the District of New Jersey
<i>East Coast Glass Systems</i>	Pohl, Inc.	United States District Court, Eastern District of Virginia
Gates of McLean Condominium	<i>Gates of McLean Development, LLC</i>	Circuit Court of Fairfax County



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PLAINTIFF	DEFENDANT	FORUM
Basic Management, Inc.	<i>United States of America</i>	United States District Court, District of Nevada
<i>United States of America</i>	Newmont USA Limited and Dawn Mining Company, LLC	United States District Court, Eastern District of Washington
Clairton Slag, Inc.	<i>Commonwealth of Pennsylvania, Department of General Services</i>	Board of Claims, Commonwealth of Pennsylvania
Lumbermens Mutual Casualty	<i>United States of America</i>	United States of Court of Federal Claims
<i>Sierra Club, et al., and United States of America</i>	MasTec North America	United States District Court District of Oregon
Raytheon Aircraft Company	<i>United States of America</i>	United States District Court, District of Kansas at Kansas City
PEC	<i>Commonwealth of Pennsylvania, Department of General Services</i>	Board of Claims, Commonwealth of Pennsylvania
<i>Eisenhower Residential, L.P., et al.</i>	Hoffman Family, L.L.C., et al.	Circuit Court for the City of Alexandria, Virginia
<i>Maryland Economic Development Corporation</i>	Place/Structures, LLC et al.	Circuit Court for Prince Georges County, Maryland
Travelers Casualty and Surety Company, as Administrator for Reliance Insurance Company	<i>Dormitory Authority - State of New York, TDX Construction, Corp. and Kohn Pederson Fox Associates, P.C.</i>	United States District Court Southern District of New York
L.K. Comstock & Company, Inc.	<i>Thales Transport & Security Inc.</i>	United States District Court Eastern District of New York
<i>The Mayor and Council of Rockville, Maryland</i>	Macris, Hendricks & Glascock, P.A.	Circuit Court for Montgomery County, Maryland
Data Computer Corporation of America	<i>United States of America</i>	United States Court of Federal Claims



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PLAINTIFF	DEFENDANT	FORUM
<i>United States of America</i>	Sunoco, Inc.	US District Court Eastern District of Pennsylvania
TDY Holdings, LLC and TDY Industries, Inc.	<i>United States of America, United States Department of Defense and Robert M. Gates in his official capacity as Secretary of Defense</i>	United States District Court Southern District of California
<i>RSC Tower I, LLC, et al</i>	Camalier Limited Partnership	Circuit Court for Circuit Court for Montgomery County, Maryland
SM Electric	<i>Stone & Webster Constructing, Inc.</i>	American Arbitration Association
<i>Environment International Ltd.</i>	Chemonics International	Arbitration
<i>Evansville Greenway and Remediation Trust</i>	Southern Indiana Gas and Electric Company, Inc. et al., and General Waste Products et al.	United States District Court Southern District of Indiana Evansville Division
<i>United States of America</i>	General Electric Company	United States District Court for the District of New Hampshire
<i>American Bridge Co./Edward Kraemer & Sons, Inc. Joint Venture</i>	PDM Bridge, LLC	American Arbitration Association
<i>Samuel Ecker</i>	Chugach McKinley, Inc., Lorton Contracting Co.Inc. and Samuel Hernandez	Circuit Court for Montgomery County, Maryland
<i>United States of America</i>	Washington State Department of Transportation	United States District Court, Western District of Washington
<i>New York University Hospitals Center</i>	HRH Construction LLC	U.S. Bankruptcy Court, Southern District of New York Adv. Pro. No. 10-0824 (SHL)



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PLAINTIFF	DEFENDANT	FORUM
Nu-West Mining, Inc. and Nu-West Industries, Inc.	<i>United States of America</i>	United States District Court District of Idaho
<i>United States of America and California Department of Toxic Substances Control</i>	Sterling Centrecorp, Inc. Stephen P. Elder, and Elder Development, Inc.	United States District Court Eastern District of California
RD Rockville, LLC RD Rockville Garage, LLC	<i>The Mayor and Council of Rockville</i>	Circuit Court for Montgomery County, Maryland
Horn & Associates, Inc	<i>United States of America</i>	United States Court of Federal Claims
<i>United States of America</i>	Federal Resources Corporation; Blum Real Estate Trust; and Bentley J. Blum in his capacity as Trustee of the Blum Real Estate Trust	United States District Court of Idaho
LCM Energy Solutions	<i>United States of America</i>	United States Court of Federal Claims Case No. 1:12-CV-321-TCW
Lockheed Martin Corp.	<i>United States of America</i>	United States District Court for the District of Columbia Case No. 1:08-CV-01160- ESH
HCLUB Investors	<i>Parc Vendome Condominiums</i>	JAMS Arbitration
<i>American Bridge Company</i>	Commonwealth of Virginia - Virginia Department of Transportation	In The Circuit Court For The County of Accomack, Virginia No. 13CL341
<i>United States of America</i>	Emhart Industries, Inc., et al.	United States District Court for the District of Rhode Island Case No. 11-0235



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PLAINTIFF	DEFENDANT	FORUM
<i>South Carolina Electric & Gas Company</i>	Consortium of Westinghouse Electric Company LLC and Stone & Webster, Inc.	V.C. Summer Dispute Review Board Dispute No. 001-2016
<i>United States of America and the State of Wisconsin</i>	NCR Corporation, et al.	United States District Court for the Eastern District of Wisconsin Green Bay Division
Montgomery County, Maryland et al.	<i>Parsons Brinckerhoff</i> , et al.	Circuit Court for Montgomery County, Maryland
State of Alaska and City of North Pole (Consolidated Plaintiffs)	Williams Alaska Petroleum, Inc., The Williams Companies, Inc., <i>Flint Hills Resources Alaska, LLC</i> , and <i>Flint Hills Resources, LLC</i> .	Superior Court for the State of Alaska, Fourth Judicial District at Fairbanks
Maintenance Enterprises, LLC	<i>Orascom E&C USA Inc.</i>	International Chamber of Commerce - International Court of Arbitration
PPG Industries, Inc.	<i>United States of America</i> , et al.	United States District Court for the District of New Jersey
<i>United States of America</i>	CMS Energy Corporation, et al.	United States District Court for the Western District of Michigan
Maintenance Enterprises, LLC	<i>Orascom E&C USA, Inc.</i> and Iowa Fertilizer Company, LLC	United States District Court for the Southern District of Iowa Davenport Division
City of Lincoln	<i>United States of America</i> , <i>United States Department of the Air Force</i> , <i>United States General Services Administration</i> , and <i>Does 1 through 100</i>	United States District Court for the Eastern District of California



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PLAINTIFF	DEFENDANT	FORUM
<i>SNC-Lavalin Inc.</i>	Saskatchewan Power Corporation	Arbitration (Canada)
<i>Manolis Painting, Inc.</i>	Maryland State Highway Administration	Maryland State Board of Contract Appeals
<i>Mid-Atlantic Arena, LLC</i>	<i>City of Virginia Beach</i>	Circuit Court of the City of Virginia Beach
<i>O'Connor Corporation</i>	Iberdrola Energy Projects, Inc.	American Arbitration Association - International Centre for Dispute Resolution
<i>United States of America</i>	Dayton Industrial Drum, Inc. and Sunoco, Inc.	United States District Court for the Southern District of Ohio Western Division
<i>ECC International, LLC</i>	<i>U.S. Army Corps of Engineers</i>	Armed Services Board of Contract Appeals
<i>United States of America</i>	Land O'Lakes, Inc. and Cushing Oklahoma Brownfields, LLC	United States District Court for the Western District of Oklahoma
<i>Yuanda Canada Enterprises LTD.</i>	Walsh Construction/Bondfield Partnership, Walsh Construction Company Canada, Bondfield Construction Company Limited and Women's College Hospital	Ontario Superior Court of Justice
<i>United States of America and State of California</i>	Montrose Chemical Corp. of California, et al.	United States District Court Central District of California, Western Division
<i>Philips Lighting North America Corporation</i>	<i>Washington Metropolitan Area Transit Authority</i>	Armed Services Board of Contract Appeals
<i>United States of America</i>	United Park City Mines Company	United States District Court for the District of Utah Central Division

Italics indicate client in the matter



WILEY R. WRIGHT, III CPA

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PLAINTIFF	DEFENDANT	FORUM
Costello Construction of Maryland, Inc.	<i>BoPat Electric Co., Inc.</i>	Circuit Court for Howard County, Maryland
<i>ACC Construction - McKnight Joint Venture, Inc.</i>	United States Department of State	United States Civilian Board of Contract Appeals
Philips Lighting North America Corporation	<i>Washington Metropolitan Area Transit Authority</i>	Armed Services Board of Contract Appeals
TC Rich, LLC, Rifle Freight, Inc., Fleischer Customs Brokers, Richard G. Fleischer, and Jacqueline Fleischer	<i>Hussain M. Shaikh, Haroon Khan, and Shah Chemical Corporation</i>	United States District Court Central District of California
<i>K&K Adams, Inc.</i>	Maryland Stadium Authority	Circuit Court for Baltimore City, Maryland
Friends of Riverside Airport, LLC	Department of the Army, <i>Rohr, Inc.</i> , Anza Realty Company, Lear Siegler, Inc., <i>City of Riverside</i> , et al	United States District Court Central District of California, Western Division
Refinería de Cartagena S.A.	<i>Chicago Bridge & Iron Company N.V., CB&I UK Limited and CBI Colombiana S.A.</i>	International Court of Arbitration, International Chamber of Commerce

Italics indicate client in the matter

PROFESSIONAL AFFILIATIONS

- ▶ American Bar Association
- ▶ American Institute of Certified Public Accountants (AICPA)
- ▶ Association of Certified Fraud Examiners
- ▶ Construction Management Association of America
- ▶ National Contract Management Association
- ▶ National Association of Forensic Economics
- ▶ Society of Construction Law - North America, Board Member
- ▶ Virginia Society of Certified Public Accountants

EDUCATION

B.S., Business Administration, George Mason University

ATTACHMENT II

Documents, Data or Other Information Considered

DOCUMENTS, DATA OR OTHER INFORMATION CONSIDERED

Docket Filings:

1. 2015.01.20 Defendant's Motion to Dismiss & Appendix
2. 2015.04.01 Plaintiffs' Opposition to Defendant's Motion to Dismiss
3. 2015.05.08 Defendant's Reply to Plaintiffs' Opposition to Defendant's Motion to Dismiss
4. 2016.09.27 Amended Complaint
5. 2016.10.14 Defendant's Answer to Amended Complaint
6. 2017.12.05 Defendant's Motion in Limine to Exclude Testimony
7. 2017.12.13 Plaintiffs' Response to Defendant's Motion in Limine to Exclude Witness Testimony
8. 2017.12.20 Order Denying Motion in Limine
9. 2017.12.29 Stipulation of Agreed-Upon Facts
10. 2018.04.02 Defendant's Post-Trial Brief
11. 2018.04.02 Plaintiff's Proposed Findings of Fact and Conclusions of Law
12. 2018.05.04 Defendant's Response Brief
13. 2018.05.04 Plaintiffs' Response Brief
14. 2019.03.29 Corrected Brief of Defendant
15. 2015.06.29 Order on Defendant's Motion to Dismiss
16. 2018.07.30 United States Court of Federal Claims Opinion
17. 2018.07.31 United States Court of Federal Claims Judgment
18. 2019.11.06 United States Court of Appeals for the Federal Circuit, Opinion
19. 2020.05.07 Joint Preliminary Status Report filed by Plaintiffs
20. 2018.01.05 Defendant's Amended Exhibit List
21. 2019.04.25 Federal Circuit Appendix
22. 2018.12.17 NCPA Initial Brief
23. 2019.03.29 Government Brief
24. 2019.04.18 NCPA Reply Brief

Court of Federal Claims Trial Exhibits:

1. Defendant's Exhibits (Labeled DX01-DX27)
2. 2017.10.30 Joint Trial Exhibits List
3. Joint Exhibits (Labeled JTX001-JTX049)
4. 2017.10.31 Corrected Plaintiffs' Trial Exhibit List
5. Plaintiffs' Exhibits (Labeled PTX 001- PTX479)

Transcripts and Related Materials:

1. 2015.07.02 Telephonic Status Conference
2. 2018.01.03 Pretrial Conference (Telephonic) Transcript
3. 2018.01.16 Trial Volume 1 (1-246)
4. 2018.01.17 Trial Volume 2 (247-499)
5. 2018.01.18 Trial Volume 3 (500 – 736)
6. 2018.01.19 Trial Volume 4 (737 – 977)
7. 2018.01.22 Trial Volume 5 (978-1218)
8. 2018.01.23 Trial Volume 6 (1219-1457)
9. 2018.01.24 Trial Volume 7 (1458-1734)

10. 2018.01.25 Trial Volume 8 (1735-1878)
11. 2018.06.01 Trial Volume 9 Closing Arguments (1879-1952)
12. 2018.05.08 Cumulative Index

Bates-Numbered Documents:

1. DEF-PROD00127021 to DEF-PROD00127073
2. DEF-PROD00188929
3. DEF-PROD00188930
4. PL_REMAND_00000345 to PL_REMAND_00000347
5. GOV000001 to GOV0001023
6. GOV001029 to GOV0003695
7. GOV003697 to GOV0005811

Other Discovery Documents:

1. Defendant's Second Set of Interrogatories and Second Set of Requests for Production of Documents
2. Plaintiffs' Responses to Defendant's Second Set of Interrogatories
3. Plaintiffs' Responses to Defendant's Second Set of Document Requests
4. Plaintiffs' Third Set of Interrogatories
5. Plaintiffs' Fourth Set of Interrogatories
6. Plaintiffs' Fifth Set of Interrogatories
7. Defendant's Second Supplemental Response to Plaintiffs' First Set of Interrogatories to the Defendant
8. Defendant's Responses to Plaintiffs' Second Set of Interrogatories
9. Defendant's Responses to Plaintiffs' Third Set of Interrogatories
10. Defendant's Responses to Plaintiffs' Fourth Set of Interrogatories
11. Defendant's Responses to Plaintiffs' Fifth Set of Interrogatories
12. Plaintiffs' Third Set of Requests for Production of Documents, Electronically Stored Information, and Tangible Things
13. Plaintiffs' Fourth Set of Requests for Production of Documents, Electronically Stored Information, and Tangible Things
14. Plaintiffs' Fifth Set of Requests for Production of Documents, Electronically Stored Information, and Tangible Things
15. Plaintiffs' Sixth Set of Requests for Production of Documents, Electronically Stored Information, and Tangible Things
16. Government's Responses to Plaintiffs' Fourth Set of Requests for the Production of Documents
17. Government's Responses to Plaintiffs' Fifth Set of Requests for the Production of Documents
18. Government's Responses to Plaintiffs' Sixth Set of Requests for the Production of Documents
19. Government's Amended Responses to Plaintiffs' Third Set of Requests for Production of Documents

Other Items:

1. 2019.11.21 CVPIA Business Practice Guidelines
2. 2019.11.21 CVPIA Handout Final
3. 2019.08.16 CVPIA Reclamation Meeting Croffsets
4. 2019.11.21 CVPIA - True-Up_Nov_Stakeholder-Mtg_FINAL
5. 2017.09.14 CVPIA Croffsets Workshop Final

6. 2021.04.21 NCPA Power Overpayment 2008 – 2020 with No Lag (Final with Friant)
7. 2021.04.21 NCPA Power Overpayment 2008 – 2020 with 2 Year Lag (Final with Friant)
8. 2021.04.21 NCPA Power Overpayment 2008 – 2015 with No Lag (with Friant)
9. 2021.04.21 NCPA Power Overpayment 2008 – 2015 no Lag (No Friant)
10. 2021.04.21 NCPA Power Overpayment 2008 – 2017 with 2 Year Lag (with Friant)
11. 2021.04.21 NCPA Power Overpayment 2008 - 2017 with 2 Year Lag (No Friant)
12. 2021.04.21 NCPA Power Overpayment 2008 – 2017 with No Lag (with Friant)
13. 2021.04.21 NCPA Power Overpayment 2008 - 2017 with No Lag (No Friant)
14. 2021.04.21 NCPA Power Overpayment 2008 – 2015 with No Lag (with Friant), as updated
15. 2021.04.21 NCPA Power Overpayment 2008 – 2017 with 2 Year Lag (with Friant), as updated
16. 2021.04.21 NCPA Power Overpayment 2008 – 2017 with 2 Year Lag (with Friant), as updated
17. 2021.04.21 NCPA Power Overpayment 2008 – 2015 with No Lag (with Friant), as updated
18. GAO Report to the Ranking Minority Member, Committee on Resources, House of Representatives, “Information on Allocation and Repayment of Costs of Constructing Water Projects,” GAO/RCED-96-109, July 1996.
19. GAO Testimony Before the Subcommittee on Water and Power Resources, Committee on Resources, House of Representatives, “Reclamation Law and the Allocation of Construction Costs for Federal Water Projects,” GAO/T-RCED-97-150, May 1997.
20. Toni Rae Linenberger for the Bureau of Reclamation, Pacific Northwest-Pacific Southwest Intertie, 1997, Reformatted, re-edited, and re-printed by Andrew H. Gahan in 2013.
21. Reclamation Policy Manual, Water-Related Contracts and Charges – General Principles and Requirements, PEC P05.
22. Central Valley Project Improvement Act, Pub. L. No. 102-575, 106 Stat. 4727-28 (1992)
23. State of WAPA’s Assets, Winter 2021
24. 2020.12.04 Fiscal Year 2020 Actuals – Restoration Fund Letter
25. Ratebooks Irrigation 2003-1998
26. Ratebooks M&I 2003-1998
27. Interior Letter for Future Power Payments
28. NCPA FY2020 Audited Financial Statement
29. Discussions with Mr. Jerry Toenyas, Consultant to NCPA
30. Discussions with Ms. Lena Perkins, Senior Resources Planner & Manager, Program for Emerging Technologies, City of Palo Alto
31. NCPA_FY2020_Audited_Financial_Statement
32. Government-Produced Spreadsheet with filename: CVPIA Croffset Alloc Scenarios_Fy18_updated_revised_R
33. 2021.06.21 Damages to NCPA – 2 year lag
34. 2021.06.21 Damages to 2008 – 2020 with No Lag
35. CVPIA Collections 2008-2020 document
36. Copy of NCPA member BR Share
37. Federal Defendants’ Motion to Dismiss, Case No. 3:20-cv-05630 (D. N. Cal. 2020).

ATTACHMENT III

Schedules

Schedule 1														
CVPIA Restoration Fund Commercial Power Damages Assessment - No Lag														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	42,050,295	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.924%	11,620,566				
2007	42,885,000	37,337,486	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.089%	9,842,320				
2008	43,938,000	27,378,379	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	22.388%	7,475,602	19,535,485	7,752,091	-	7,752,091
2009	45,306,000	25,447,505	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.681%	7,298,593	27,237,496	10,808,410	-	10,808,410
2010	45,567,000	37,328,175	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.056%	11,172,980	(491,386)	(194,992)	-	(194,992)
2011	46,467,000	40,504,786	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.661%	11,851,239	9,109,214	3,614,727	-	3,614,727
2012	46,953,000	44,263,353	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.244%	12,365,287	8,497,346	3,371,925	-	3,371,925
2013	48,963,000	30,445,382	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.794%	8,661,429	8,742,845	3,469,345	-	3,469,345
2014	49,956,000	14,589,574	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.402%	4,070,746	30,249,907	12,003,798	-	12,003,798
2015	50,361,000	9,753,177	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	26.006%	2,706,726	37,682,971	-	15,953,915	15,953,915
2016	51,024,000	23,409,573	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.580%	7,094,454	33,860,444	-	14,335,564	14,335,564
2017	51,135,000	40,121,530	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	27.130%	12,536,321	13,510,676	-	5,720,042	5,720,042
2018	52,359,000	52,765,216	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.690%	17,133,900	(7,236,942)	-	(3,063,918)	(3,063,918)
2019	53,151,000	53,666,371	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	28.240%	17,692,357	13,086,384	-	5,540,409	5,540,409
2020	54,548,000	39,581,290	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	28.240%	12,949,129	6,049,219	-	2,561,070	2,561,070
Total	\$ 723,827,000	\$ 518,642,091	\$ 351,697,526	\$ 364,170,443	\$ 98,688,743	\$ 715,867,970	\$ 814,556,713			\$ 154,471,648	\$ 199,833,660	\$ 40,825,305	\$ 41,047,081	\$ 81,872,385

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
- (3) Power's 10-Year Rolling Average Capital CVP Percentages (JTX2/Interrogatory 25)
- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
- (5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.
Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002.
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

Schedule 2														
CVPIA Restoration Fund Commercial Power Damages Assessment - No Lag, as Recomputed														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	41,909,000	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.715%	11,479,271				
2007	42,885,000	37,316,164	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.052%	9,820,998				
2008	43,938,000	28,054,366	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	23.928%	8,151,589	18,859,498	7,483,845	-	7,483,845
2009	45,306,000	25,432,246	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.644%	7,283,335	27,252,754	10,814,465	-	10,814,465
2010	45,567,000	37,305,703	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.020%	11,150,508	(468,914)	(186,075)	-	(186,075)
2011	46,467,000	40,459,134	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.591%	11,805,586	9,154,866	3,632,843	-	3,632,843
2012	46,953,000	44,215,113	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.172%	12,317,046	8,545,587	3,391,068	-	3,391,068
2013	48,963,000	30,442,083	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.787%	8,658,130	8,746,144	3,470,653	-	3,470,653
2014	49,956,000	14,585,355	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.382%	4,066,527	30,254,126	12,005,472	-	12,005,472
2015	50,361,000	9,745,738	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	25.953%	2,699,287	37,690,410	-	15,957,064	15,957,064
2016	51,024,000	23,352,339	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.422%	7,037,220	33,917,678	-	14,359,795	14,359,795
2017	51,135,000	40,026,521	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	26.980%	12,441,312	13,605,685	-	5,760,266	5,760,266
2018	52,359,000	52,640,169	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.544%	17,008,853	(7,111,895)	-	(3,010,977)	(3,010,977)
2019	53,151,000	53,051,139	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	27.528%	17,077,124	13,701,617	-	5,800,881	5,800,881
2020	54,548,000	39,130,998	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	27.528%	12,498,837	6,499,511	-	2,751,711	2,751,711
Total	\$ 723,827,000	\$ 517,666,067	\$ 351,697,526	\$ 364,170,443	\$ 98,688,743	\$ 715,867,970	\$ 814,556,713			\$ 153,495,624	\$ 200,647,066	\$ 40,612,272	\$ 41,618,740	\$ 82,231,012

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
- (3) Power's 10-Year Rolling Average Capital CVP Percentages
- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
- (5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.
Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002.
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

Schedule 3														
CVPIA Restoration Fund Commercial Power Damages Assessment- 2 Year Lag														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	39,809,669	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.924%	9,379,939				
2007	42,885,000	38,250,246	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.089%	10,755,080				
2008	43,938,000	31,523,343	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	22.388%	11,620,566	15,390,521	6,107,282	-	6,107,282
2009	45,306,000	27,991,232	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.681%	9,842,321	24,693,768	9,799,006	-	9,799,006
2010	45,567,000	33,630,797	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.056%	7,475,602	3,205,992	1,272,205	-	1,272,205
2011	46,467,000	35,952,141	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.661%	7,298,593	13,661,859	5,421,312	-	5,421,312
2012	46,953,000	43,071,046	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.244%	11,172,980	9,689,653	3,845,058	-	3,845,058
2013	48,963,000	33,635,192	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.794%	11,851,239	5,553,035	2,203,561	-	2,203,561
2014	49,956,000	22,884,115	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.402%	12,365,287	21,955,366	8,712,350	-	8,712,350
2015	50,361,000	15,707,880	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	26.006%	8,661,429	31,728,268	-	13,432,860	13,432,860
2016	51,024,000	20,385,865	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.580%	4,070,746	36,884,152	-	15,615,717	15,615,717
2017	51,135,000	30,291,935	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	27.130%	2,706,726	23,340,271	-	9,881,617	9,881,617
2018	52,359,000	42,725,770	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.690%	7,094,454	2,802,504	-	1,186,502	1,186,502
2019	53,151,000	48,510,335	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	28.240%	12,536,321	18,242,420	-	7,723,330	7,723,330
2020	54,548,000	43,766,061	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	28.240%	17,133,900	1,864,448	-	789,355	789,355
Total	\$ 723,827,000	\$ 508,135,626	\$ 351,697,526	\$ 364,170,444	\$ 98,688,744	\$ 715,867,970	\$ 814,556,713			\$ 143,965,182	\$ 209,012,258	\$ 37,360,775	\$ 48,629,382	\$ 85,990,156

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
- (3) Power's 10-Year Rolling Average Capital CVP Percentages (JTX2/Interrogatory 25)
- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
- (5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.
Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002.
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

Schedule 4														
CVPIA Restoration Fund Commercial Power Damages Assessment- 2 Year Lag, as Recomputed														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	39,809,669	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.715%	9,379,939				
2007	42,885,000	38,250,246	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.052%	10,755,080				
2008	43,938,000	31,382,047	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	23.928%	11,479,271	15,531,817	6,163,351	-	6,163,351
2009	45,306,000	27,969,909	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.644%	9,820,998	24,715,091	9,807,467	-	9,807,467
2010	45,567,000	34,306,784	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.020%	8,151,589	2,530,005	1,003,959	-	1,003,959
2011	46,467,000	35,936,883	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.591%	7,283,335	13,677,117	5,427,367	-	5,427,367
2012	46,953,000	43,048,574	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.172%	11,150,508	9,712,125	3,853,975	-	3,853,975
2013	48,963,000	33,589,539	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.787%	11,805,586	5,598,688	2,221,677	-	2,221,677
2014	49,956,000	22,835,874	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.382%	12,317,046	22,003,607	8,731,493	-	8,731,493
2015	50,361,000	15,704,581	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	25.953%	8,658,130	31,731,567	-	13,434,257	13,434,257
2016	51,024,000	20,381,646	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.422%	4,066,527	36,888,371	-	15,617,503	15,617,503
2017	51,135,000	30,284,496	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	26.980%	2,699,287	23,347,710	-	9,884,767	9,884,767
2018	52,359,000	42,668,536	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.544%	7,037,220	2,859,738	-	1,210,733	1,210,733
2019	53,151,000	48,415,326	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	27.528%	12,441,312	18,337,429	-	7,763,554	7,763,554
2020	54,548,000	43,641,014	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	27.528%	17,008,853	1,989,495	-	842,297	842,297
Total	\$ 723,827,000	\$ 508,225,125	\$ 351,697,526	\$ 364,170,444	\$ 98,688,744	\$ 715,867,970	\$ 814,556,713			\$ 144,054,682	\$ 208,922,759	\$ 37,209,290	\$ 48,753,110	\$ 85,962,400

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
- (3) Power's 10-Year Rolling Average Capital CVP Percentages
- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
- (5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.
Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER AGENCY, ET AL.,

Plaintiffs,

v.

THE UNITED STATES,

Defendant.

Case No. 14-817C

Supplemental Expert Report of
Wiley R. Wright, III CPA
September 10, 2021

NORTHERN CALIFORNIA POWER AGENCY, ET AL.

v.

THE UNITED STATES

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Attachments

Attachment I: Documents, Data or Other Information Considered

Attachment II: Schedules

Schedule 1: CVPIA Restoration Fund Commercial Power Damages Assessment – No
Lag

Amended Schedule 2: CVPIA Restoration Fund Commercial Power Damages
Assessment – No Lag (Recomputed)

Schedule 3: CVPIA Restoration Fund Commercial Power Damages Assessment – 2-year
Lag

Amended Schedule 4: CVPIA Restoration Fund Commercial Power Damages
Assessment – 2-year Lag (Recomputed)

NORTHERN CALIFORNIA POWER AGENCY, ET AL.

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THE UNITED STATES

I. INTRODUCTION AND SCOPE OF WORK

1. My name is Wiley R. Wright, III. I have been retained by the plaintiffs in this case—Northern California Power Agency (NCPA) and the Cities of Redding, Roseville, and Santa Clara, California—to provide my opinions concerning the methods and data to use to compute damages in this case. I also have been asked to perform and present the necessary damage calculations.
2. For my analysis and testimony, I will be compensated at my usual hourly rate of \$350.
3. The Cities of Redding, Roseville, and Santa Clara are members of NCPA, and in this report I refer to the plaintiffs collectively as NCPA.
4. I issued an affirmative report in this matter on August 12, 2021 that set forth my opinions regarding the methods and data used to compute damages in this case, presented my calculation of damages and included a discussion of the Central Valley Project, the Central Valley Project Improvement Act, and the issues in the current litigation (affirmative report). In the affirmative report, I calculated damages using the historically applicable proportionality percentages set forth in a joint trial exhibit already in evidence and corresponding percentages produced in discovery for later years. As a check, I also calculated damages using proportionality percentages I derived directly from annual cost allocation spreadsheets that the Bureau prepared during the damages period.
5. After issuing my affirmative report, I discovered a formula error in the alternative damages calculation models. This report includes the correction to the damages amounts using the alternative method set forth in my affirmative report.

II. EXPERT QUALIFICATIONS AND PREVIOUS TESTIMONY

6. My qualifications and experience, including a copy of my resume, were addressed and included in my affirmative report.
7. I am responsible for the services performed and the opinions given herein and have personally rendered or reviewed the analysis performed by the members of our staff with respect to them. Use of the words “I”, “my”, “we”, and “our” throughout this report means myself and the BDO professionals working under my direction and supervision.

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8. All work performed by BDO was completed in accordance with the American Institute of Certified Public Accountants (AICPA) Statement on Standards for Forensic Services.¹ These standards require, in part, that the practitioner obtain sufficient relevant data to afford a reasonable basis for conclusions or recommendations in relation to any professional services provided. I have done so for the work performed and opinions expressed herein.
9. The documents, data and information that I considered in performing my analysis are the types of documents, data and information that experts in my field typically consider and rely upon in performing similar damages engagements.

III. SUMMARY OF OPINIONS

Correction of alternative quantification of damage amounts

10. As reflected in my affirmative report, I quantified Plaintiffs' damages for the period fiscal year (FY) 2008 through FY 2020 by comparing the actual amounts they paid to the amounts they should have paid during the damages period applying proportionality. My damages calculations were presented in my affirmative report. Subsequent to the issuance of my affirmative report, I identified formula errors in an Excel worksheet I used to develop my damages calculations using then-contemporaneous annual cost allocations for both the no lag and two-year lag approaches. The formula errors had no impact on my calculations of damages using Joint Exhibit 2 and interrogatory response 25 presented in my affirmative report; those amounts remain unchanged.

IV. BASES FOR OPINIONS

11. As I explained in my August 12, 2021 affirmative report, this is an overcharge case. Under the Central Valley Project Improvement Act (CVPIA), the United States imposes charges—called “mitigation and restoration” (M&R) payments—on contractors that receive water or electric power from the Central Valley Project (CVP or Project). The CVPIA requires that, to the greatest degree practicable, M&R charges be collected from water and power contractors in the same proportion measured over a ten-year rolling average as their respective

¹ Statement on Standards for Forensic Services (SSFS) No. 1 (FS sec. 100).

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allocations of responsibility to repay CVP costs. The United States, however, did not abide by that limitation and instead imposed disproportionate charges upon the plaintiffs and other power contractors. In my affirmative report, I quantified the proportionate amounts that the United States should have charged plaintiffs during the relevant period and the disproportionate excess that it actually charged them, which the Government should pay as damages.

12. In my report, I calculated what the United States should have charged by using the proportionality percentages set forth in Joint Exhibit 2—an exhibit the parties jointly sponsored during the 2018 trial to show the ten-year rolling average of water and power contractors' repayment allocations through FY 2015. See Jan. 17, 2018 Tr. at 322:23–323:12. For later years, I used percentages provided by the Government in response to plaintiffs' interrogatory 25, which asked the Government for percentages calculated on the same basis as Joint Exhibit 2 covering the ten-year periods 2007–2016 through 2011–2020.² I explained that these percentages reflected the cost allocations actually in effect during the damages period, and were the least speculative percentages to use in calculating damages.
13. As a check, I also performed damages calculations using proportionality percentages I derived directly from CVP cost allocation spreadsheets that the Government prepared annually during the damages period. See paragraphs 63–67 & schedules 2 and 4 of my August 12, 2021 affirmative report. Using these percentages, schedule 2 compared plaintiffs' actual payments to what they would have been had power's M&R payment been proportional to water's CVPIA payments for the same year. Schedule 4 estimated damages as if power's M&R payments had been proportional to water's CVPIA payments two years earlier.
14. Subsequent to the issuance of my affirmative report of August 12, 2021, I noted an error in the calculations and resulting damages estimate based on these then-contemporaneous annual spreadsheets. The errors were due to (1) a formula that carried through an entire column of totals, (2) one of the ten-year rolling averages incorrectly included 11 years of costs, and (3) a typographical error of the commercial power input for 2015. The cumulative result of

² As explained in my August 12, 2021 affirmative report, the Government provided data through FYs 2010–2019, and asserted that cost allocation data for 2020 was not yet available. In my damage calculations, when proportionality percentages for FY 2020 were required, I held the percentages constant from 2019 to 2020.

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these errors changed the ten-year rolling average percentages which impacted the total damage amounts. The no lag damage amount decreased by \$54,950 as compared to the amount that was in my affirmative report. The two-year lag damage amount increased by \$195,525 as compared to the amount reflected in my affirmative report.

15. I have attached to this supplemental report amended versions of schedules 2 and 4 reflecting my corrected calculations. Schedules 1 and 3 remain unchanged, and represent my opinion about the damages the defendant owes using proportionality percentages from Joint Exhibit 2 and interrogatory 25. The tables below summarize the changed and unchanged damage amounts:

No lag

Damages using Joint Exhibit 2 and Interrogatory 25 (unchanged) [Schedule 1]	Damages presented in affirmative report using then-contemporaneous annual cost allocations [Schedule 2]	Damages using then-contemporaneous annual cost allocations, as recalculated [Amended Schedule 2]
\$81,872,385	\$82,231,012	\$82,176,062

Two-year lag

Damages using Joint Exhibit 2 and Interrogatory 25 (unchanged) [Schedule 3]	Damages presented in affirmative report using then-contemporaneous annual cost allocations [Schedule 4]	Damages using then-contemporaneous annual cost allocations, as recalculated [Amended Schedule 4]
\$85,990,156	\$85,962,400	\$86,157,925

16. For the reasons explained in my August 12, 2021 affirmative report, the amount calculated in schedule 1—\$81,872,385—is the amount I believe the court should award as damages.

V. DOCUMENTS, DATA OR OTHER INFORMATION CONSIDERED

17. The list of documents, data or other information I considered in conjunction with this report can be found in Attachment I.

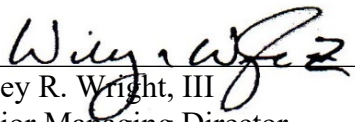
NORTHERN CALIFORNIA POWER AGENCY, ET AL.

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VI. CONCLUSIONS

18. Except as noted above, the conclusions set forth in my August 12, 2021 affirmative report remain unchanged.



Wiley R. Wright, III
Senior Managing Director

September 10, 2021
Date

ATTACHMENT I

Documents, Data or Other Information Considered

DOCUMENTS, DATA OR OTHER INFORMATION CONSIDERED

Docket Filings:

1. 2015.01.20 Defendant's Motion to Dismiss & Appendix
2. 2015.04.01 Plaintiffs' Opposition to Defendant's Motion to Dismiss
3. 2015.05.08 Defendant's Reply to Plaintiffs' Opposition to Defendant's Motion to Dismiss
4. 2016.09.27 Amended Complaint
5. 2016.10.14 Defendant's Answer to Amended Complaint
6. 2017.12.05 Defendant's Motion in Limine to Exclude Testimony
7. 2017.12.13 Plaintiffs' Response to Defendant's Motion in Limine to Exclude Witness Testimony
8. 2017.12.20 Order Denying Motion in Limine
9. 2017.12.29 Stipulation of Agreed-Upon Facts
10. 2018.04.02 Defendant's Post-Trial Brief
11. 2018.04.02 Plaintiff's Proposed Findings of Fact and Conclusions of Law
12. 2018.05.04 Defendant's Response Brief
13. 2018.05.04 Plaintiffs' Response Brief
14. 2019.03.29 Corrected Brief of Defendant
15. 2015.06.29 Order on Defendant's Motion to Dismiss
16. 2018.07.30 United States Court of Federal Claims Opinion
17. 2018.07.31 United States Court of Federal Claims Judgment
18. 2019.11.06 United States Court of Appeals for the Federal Circuit, Opinion
19. 2020.05.07 Joint Preliminary Status Report filed by Plaintiffs
20. 2018.01.05 Defendant's Amended Exhibit List
21. 2019.04.25 Federal Circuit Appendix
22. 2018.12.17 NCPA Initial Brief
23. 2019.03.29 Government Brief
24. 2019.04.18 NCPA Reply Brief

Court of Federal Claims Trial Exhibits:

1. Defendant's Exhibits (Labeled DX01-DX27)
2. 2017.10.30 Joint Trial Exhibits List
3. Joint Exhibits (Labeled JTX001-JTX049)
4. 2017.10.31 Corrected Plaintiffs' Trial Exhibit List
5. Plaintiffs' Exhibits (Labeled PTX 001- PTX479)

Transcripts and Related Materials:

1. 2015.07.02 Telephonic Status Conference
2. 2018.01.03 Pretrial Conference (Telephonic) Transcript
3. 2018.01.16 Trial Volume 1 (1-246)
4. 2018.01.17 Trial Volume 2 (247-499)
5. 2018.01.18 Trial Volume 3 (500 – 736)
6. 2018.01.19 Trial Volume 4 (737 – 977)
7. 2018.01.22 Trial Volume 5 (978-1218)
8. 2018.01.23 Trial Volume 6 (1219-1457)
9. 2018.01.24 Trial Volume 7 (1458-1734)

10. 2018.01.25 Trial Volume 8 (1735-1878)
11. 2018.06.01 Trial Volume 9 Closing Arguments (1879-1952)
12. 2018.05.08 Cumulative Index

Bates-Numbered Documents:

1. DEF-PROD00127021 to DEF-PROD00127073
2. DEF-PROD00188929
3. DEF-PROD00188930
4. PL_REMAND_00000345 to PL_REMAND_00000347
5. GOV000001 to GOV0001023
6. GOV001029 to GOV0003695
7. GOV003697 to GOV0005811

Other Discovery Documents:

1. Defendant's Second Set of Interrogatories and Second Set of Requests for Production of Documents
2. Plaintiffs' Responses to Defendant's Second Set of Interrogatories
3. Plaintiffs' Responses to Defendant's Second Set of Document Requests
4. Plaintiffs' Third Set of Interrogatories
5. Plaintiffs' Fourth Set of Interrogatories
6. Plaintiffs' Fifth Set of Interrogatories
7. Defendant's Second Supplemental Response to Plaintiffs' First Set of Interrogatories to the Defendant
8. Defendant's Responses to Plaintiffs' Second Set of Interrogatories
9. Defendant's Responses to Plaintiffs' Third Set of Interrogatories
10. Defendant's Responses to Plaintiffs' Fourth Set of Interrogatories
11. Defendant's Responses to Plaintiffs' Fifth Set of Interrogatories
12. Plaintiffs' Third Set of Requests for Production of Documents, Electronically Stored Information, and Tangible Things
13. Plaintiffs' Fourth Set of Requests for Production of Documents, Electronically Stored Information, and Tangible Things
14. Plaintiffs' Fifth Set of Requests for Production of Documents, Electronically Stored Information, and Tangible Things
15. Plaintiffs' Sixth Set of Requests for Production of Documents, Electronically Stored Information, and Tangible Things
16. Government's Responses to Plaintiffs' Fourth Set of Requests for the Production of Documents
17. Government's Responses to Plaintiffs' Fifth Set of Requests for the Production of Documents
18. Government's Responses to Plaintiffs' Sixth Set of Requests for the Production of Documents
19. Government's Amended Responses to Plaintiffs' Third Set of Requests for Production of Documents

Other Items:

1. 2019.11.21 CVPIA Business Practice Guidelines
2. 2019.11.21 CVPIA Handout Final
3. 2019.08.16 CVPIA Reclamation Meeting Croffsets
4. 2019.11.21 CVPIA - True-Up_Nov_Stakeholder-Mtg_FINAL
5. 2017.09.14 CVPIA Croffsets Workshop Final

6. 2021.04.21 NCPA Power Overpayment 2008 – 2020 with No Lag (Final with Friant)
7. 2021.04.21 NCPA Power Overpayment 2008 – 2020 with 2 Year Lag (Final with Friant)
8. 2021.04.21 NCPA Power Overpayment 2008 – 2015 with No Lag (with Friant)
9. 2021.04.21 NCPA Power Overpayment 2008 – 2015 no Lag (No Friant)
10. 2021.04.21 NCPA Power Overpayment 2008 – 2017 with 2 Year Lag (with Friant)
11. 2021.04.21 NCPA Power Overpayment 2008 - 2017 with 2 Year Lag (No Friant)
12. 2021.04.21 NCPA Power Overpayment 2008 – 2017 with No Lag (with Friant)
13. 2021.04.21 NCPA Power Overpayment 2008 - 2017 with No Lag (No Friant)
14. 2021.04.21 NCPA Power Overpayment 2008 – 2015 with No Lag (with Friant), as updated
15. 2021.04.21 NCPA Power Overpayment 2008 – 2017 with 2 Year Lag (with Friant), as updated
16. 2021.04.21 NCPA Power Overpayment 2008 – 2017 with 2 Year Lag (with Friant), as updated
17. 2021.04.21 NCPA Power Overpayment 2008 – 2015 with No Lag (with Friant), as updated
18. GAO Report to the Ranking Minority Member, Committee on Resources, House of Representatives, “Information on Allocation and Repayment of Costs of Constructing Water Projects,” GAO/RCED-96-109, July 1996.
19. GAO Testimony Before the Subcommittee on Water and Power Resources, Committee on Resources, House of Representatives, “Reclamation Law and the Allocation of Construction Costs for Federal Water Projects,” GAO/T-RCED-97-150, May 1997.
20. Toni Rae Linenberger for the Bureau of Reclamation, Pacific Northwest-Pacific Southwest Intertie, 1997, Reformatted, re-edited, and re-printed by Andrew H. Gahan in 2013.
21. Reclamation Policy Manual, Water-Related Contracts and Charges – General Principles and Requirements, PEC P05.
22. Central Valley Project Improvement Act, Pub. L. No. 102-575, 106 Stat. 4727-28 (1992)
23. State of WAPA’s Assets, Winter 2021
24. 2020.12.04 Fiscal Year 2020 Actuals – Restoration Fund Letter
25. Ratebooks Irrigation 2003-1998
26. Ratebooks M&I 2003-1998
27. Interior Letter for Future Power Payments
28. NCPA FY2020 Audited Financial Statement
29. Discussions with Mr. Jerry Toenyas, Consultant to NCPA
30. Discussions with Ms. Lena Perkins, Senior Resources Planner & Manager, Program for Emerging Technologies, City of Palo Alto
31. NCPA_FY2020_Audited_Financial_Statement
32. Government-Produced Spreadsheet with filename: CVPIA Croffset Alloc Scenarios_Fy18_updated_revised_R
33. 2021.06.21 Damages to NCPA – 2 year lag
34. 2021.06.21 Damages to 2008 – 2020 with No Lag
35. CVPIA Collections 2008-2020 document
36. Copy of NCPA member BR Share
37. Federal Defendants’ Motion to Dismiss, Case No. 3:20-cv-05630 (D. N. Cal. 2020).

ATTACHMENT II

Schedules

Schedule 1														
CVPIA Restoration Fund Commercial Power Damages Assessment - No Lag														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	42,050,295	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.924%	11,620,566				
2007	42,885,000	37,337,486	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.089%	9,842,320				
2008	43,938,000	27,378,379	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	22.388%	7,475,602	19,535,485	7,752,091	-	7,752,091
2009	45,306,000	25,447,505	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.681%	7,298,593	27,237,496	10,808,410	-	10,808,410
2010	45,567,000	37,328,175	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.056%	11,172,980	(491,386)	(194,992)	-	(194,992)
2011	46,467,000	40,504,786	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.661%	11,851,239	9,109,214	3,614,727	-	3,614,727
2012	46,953,000	44,263,353	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.244%	12,365,287	8,497,346	3,371,925	-	3,371,925
2013	48,963,000	30,445,382	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.794%	8,661,429	8,742,845	3,469,345	-	3,469,345
2014	49,956,000	14,589,574	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.402%	4,070,746	30,249,907	12,003,798	-	12,003,798
2015	50,361,000	9,753,177	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	26.006%	2,706,726	37,682,971	-	15,953,915	15,953,915
2016	51,024,000	23,409,573	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.580%	7,094,454	33,860,444	-	14,335,564	14,335,564
2017	51,135,000	40,121,530	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	27.130%	12,536,321	13,510,676	-	5,720,042	5,720,042
2018	52,359,000	52,765,216	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.690%	17,133,900	(7,236,942)	-	(3,063,918)	(3,063,918)
2019	53,151,000	53,666,371	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	28.240%	17,692,357	13,086,384	-	5,540,409	5,540,409
2020	54,548,000	39,581,290	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	28.240%	12,949,129	6,049,219	-	2,561,070	2,561,070
Total	\$ 723,827,000	\$ 518,642,091	\$ 351,697,526	\$ 364,170,443	\$ 98,688,743	\$ 715,867,970	\$ 814,556,713			\$ 154,471,648	\$ 199,833,660	\$ 40,825,305	\$ 41,047,081	\$ 81,872,385

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
- (3) Power's 10-Year Rolling Average Capital CVP Percentages (JTX2/Interrogatory 25)
- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
- (5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.

Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002.
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

Amended Schedule 2														
CVPIA Restoration Fund Commercial Power Damages Assessment - No Lag, as Recomputed														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	41,909,000	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.715%	11,479,271				
2007	42,885,000	37,316,164	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.052%	9,820,998				
2008	43,938,000	27,362,327	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	22.351%	7,459,551	19,551,537	7,758,460	-	7,758,460
2009	45,306,000	25,432,246	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.644%	7,283,335	27,252,754	10,814,465	-	10,814,465
2010	45,567,000	37,305,703	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.020%	11,150,508	(468,914)	(186,075)	-	(186,075)
2011	46,467,000	40,459,134	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.591%	11,805,586	9,154,866	3,632,843	-	3,632,843
2012	46,953,000	44,215,113	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.172%	12,317,046	8,545,587	3,391,068	-	3,391,068
2013	48,963,000	30,442,083	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.787%	8,658,130	8,746,144	3,470,653	-	3,470,653
2014	49,956,000	14,585,355	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.382%	4,066,527	30,254,126	12,005,472	-	12,005,472
2015	50,361,000	9,744,950	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	25.947%	2,698,499	37,691,198	-	15,957,398	15,957,398
2016	51,024,000	23,388,911	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.523%	7,073,792	33,881,106	-	14,344,312	14,344,312
2017	51,135,000	40,090,715	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	27.081%	12,505,506	13,541,491	-	5,733,088	5,733,088
2018	52,359,000	52,727,002	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.645%	17,095,686	(7,198,728)	-	(3,047,740)	(3,047,740)
2019	53,151,000	53,392,739	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	27.925%	17,418,725	13,360,016	-	5,656,257	5,656,257
2020	54,548,000	39,381,017	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	27.925%	12,748,856	6,249,492	-	2,645,860	2,645,860
Total	\$ 723,827,000	\$ 517,752,459	\$ 351,697,526	\$ 364,170,443	\$ 98,688,743	\$ 715,867,970	\$ 814,556,713			\$ 153,582,016	\$ 200,560,674	\$ 40,886,888	\$ 41,289,175	\$ 82,176,062

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
- (3) Power's 10-Year Rolling Average Capital CVP Percentages
- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
- (5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.

Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002.
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

Schedule 3														
CVPIA Restoration Fund Commercial Power Damages Assessment- 2 Year Lag														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	39,809,669	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.924%	9,379,939				
2007	42,885,000	38,250,246	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.089%	10,755,080				
2008	43,938,000	31,523,343	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	22.388%	11,620,566	15,390,521	6,107,282	-	6,107,282
2009	45,306,000	27,991,232	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.681%	9,842,321	24,693,768	9,799,006	-	9,799,006
2010	45,567,000	33,630,797	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.056%	7,475,602	3,205,992	1,272,205	-	1,272,205
2011	46,467,000	35,952,141	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.661%	7,298,593	13,661,859	5,421,312	-	5,421,312
2012	46,953,000	43,071,046	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.244%	11,172,980	9,689,653	3,845,058	-	3,845,058
2013	48,963,000	33,635,192	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.794%	11,851,239	5,553,035	2,203,561	-	2,203,561
2014	49,956,000	22,884,115	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.402%	12,365,287	21,955,366	8,712,350	-	8,712,350
2015	50,361,000	15,707,880	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	26.006%	8,661,429	31,728,268	-	13,432,860	13,432,860
2016	51,024,000	20,385,865	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.580%	4,070,746	36,884,152	-	15,615,717	15,615,717
2017	51,135,000	30,291,935	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	27.130%	2,706,726	23,340,271	-	9,881,617	9,881,617
2018	52,359,000	42,725,770	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.690%	7,094,454	2,802,504	-	1,186,502	1,186,502
2019	53,151,000	48,510,335	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	28.240%	12,536,321	18,242,420	-	7,723,330	7,723,330
2020	54,548,000	43,766,061	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	28.240%	17,133,900	1,864,448	-	789,355	789,355
Total	\$ 723,827,000	\$ 508,135,626	\$ 351,697,526	\$ 364,170,444	\$ 98,688,744	\$ 715,867,970	\$ 814,556,713			\$ 143,965,182	\$ 209,012,258	\$ 37,360,775	\$ 48,629,382	\$ 85,990,156

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
- (3) Power's 10-Year Rolling Average Capital CVP Percentages (JTX2/Interrogatory 25)
- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
- (5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.

Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002.
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

Amended Schedule 4														
CVPIA Restoration Fund Commercial Power Damages Assessment- 2 Year Lag, as Recomputed														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CVPIA 3407 Actual Collections (8):														
Fiscal Year (7)	\$30 Million Limit Indexed for Inflation (5)	Total Water & Proportional Power M&R	Power M&R	Water M&R	Other Water	Total Power & Water M&R (1)	Total All Collections	CVPIA Annual % (2)	CVP 10-Year % (3)	Proportional Power M&R (4)	Power Over/(Under) Payment	NCPA Share 39.68% (6)	NCPA Share 42.34% (6)	Total NCPA Overpayment
2006	41,214,000	39,809,669	13,488,271	30,429,729	10,953,565	43,918,000	54,871,565	24.582%	21.715%	9,379,939				
2007	42,885,000	38,250,246	5,366,834	27,495,166	7,220,078	32,862,000	40,082,078	13.390%	22.052%	10,755,080				
2008	43,938,000	31,382,047	27,011,088	19,902,777	6,012,734	46,913,864	52,926,598	51.035%	22.351%	11,479,271	15,531,817	6,163,351	-	6,163,351
2009	45,306,000	27,969,909	34,536,089	18,148,911	6,731,823	52,685,000	59,416,823	58.125%	22.644%	9,820,998	24,715,091	9,807,467	-	9,807,467
2010	45,567,000	33,614,746	10,681,594	26,155,195	11,132,008	36,836,789	47,968,797	22.268%	23.020%	7,459,551	3,222,043	1,278,574	-	1,278,574
2011	46,467,000	35,936,883	20,960,452	28,653,548	9,582,862	49,614,000	59,196,862	35.408%	23.591%	7,283,335	13,677,117	5,427,367	-	5,427,367
2012	46,953,000	43,048,574	20,862,633	31,898,066	6,740,140	52,760,699	59,500,839	35.063%	24.172%	11,150,508	9,712,125	3,853,975	-	3,853,975
2013	48,963,000	33,589,539	17,404,274	21,783,953	4,488,185	39,188,227	43,676,412	39.848%	24.787%	11,805,586	5,598,688	2,221,677	-	2,221,677
2014	49,956,000	22,835,874	34,320,653	10,518,828	1,435,723	44,839,481	46,275,204	74.166%	25.382%	12,317,046	22,003,607	8,731,493	-	8,731,493
2015	50,361,000	15,704,581	40,389,697	7,046,451	654,906	47,436,148	48,091,054	83.986%	25.947%	8,658,130	31,731,567	-	13,434,257	13,434,257
2016	51,024,000	20,381,646	40,954,898	16,315,119	3,281,374	57,270,017	60,551,391	67.637%	26.523%	4,066,527	36,888,371	-	15,617,503	15,617,503
2017	51,135,000	30,283,708	26,046,997	27,585,209	6,086,804	53,632,206	59,719,010	43.616%	27.081%	2,698,499	23,348,498	-	9,885,100	9,885,100
2018	52,359,000	42,705,108	9,896,958	35,631,316	9,112,356	45,528,274	54,640,630	18.113%	27.645%	7,073,792	2,823,166	-	1,195,250	1,195,250
2019	53,151,000	48,479,520	30,778,741	35,974,014	8,983,617	66,752,755	75,736,373	40.639%	27.925%	12,505,506	18,273,235	-	7,736,376	7,736,376
2020	54,548,000	43,727,847	18,998,348	26,632,161	6,272,566	45,630,509	51,903,075	36.604%	27.925%	17,095,686	1,902,662	-	805,534	805,534
Total	\$ 723,827,000	\$ 507,719,898	\$ 351,697,526	\$ 364,170,444	\$ 98,688,744	\$ 715,867,970	\$ 814,556,713			\$ 143,549,454	\$ 209,427,986	\$ 37,483,905	\$ 48,674,020	\$ 86,157,925

- (1) Actual 3407(d) Restoration Fund Collections from Water and Power
- (2) Actual Power M&R as a Percent of Total Power & Water M&R
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- (4) Power M&R Obligation Proportional to (Water M&R + Other Water)
- (5) \$30 million, as indexed for inflation, limitation amounts provided by the Government, see GOV0000002.
Amounts are presented for an analysis of the three-year rolling average as described in Section 3407(d)(2)(A) compared to the Total Water M&R receipts and Commercial Power's maximum repayment.
- (6) NCPA share percentages sourced from worksheet with bates number PL_REMAND_00000347 BR Spreadsheet which agree to percentages used by the Government in GOV0000002
- (7) 2006 & 2007 presented for purposes of computing the \$30M, three-year rolling average pursuant to Section 3407(d)(2)(A).
- (8) CVPIA water receipts sourced from GOV0000002. While we disagree with the Government's damages computation, we do not contest their accounting of CVPIA receipts.

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER AGENCY, ET AL.,

Plaintiffs,

v.

THE UNITED STATES,

Defendant.

Case No. 14-817C

Rebuttal Expert Report of
Wiley R. Wright, III CPA
September 13, 2021

NORTHERN CALIFORNIA POWER AGENCY, ET AL.

v.

THE UNITED STATES

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Attachment

Attachment I: Documents, Data or Other Information Considered

I. INTRODUCTION AND SCOPE OF WORK

1. My name is Wiley R. Wright, III. I have been retained by the plaintiffs in this case—Northern California Power Agency (NCPA) and the Cities of Redding, Roseville, and Santa Clara, California—to provide my opinions concerning the methodology, conclusions and damages calculations presented in the Expert Disclosures (disclosures) of Bureau of Reclamation, Department of the Interior employees Mr. Spencer Walden, Mr. Steve Pavich and Dr. William Taylor, as disclosed by the Defendant. To the extent that I do not address certain parts of the Government’s experts’ disclosures in this report, it does not mean that I agree they are correct.
2. For my analysis and testimony, I will be compensated at my usual hourly rate of \$350.
3. The Cities of Redding, Roseville, and Santa Clara are members of NCPA, and in this report I refer to the plaintiffs collectively as NCPA.
4. I issued an affirmative report in this matter on August 12, 2021 that set forth my opinions regarding the methods and data used to compute damages in this case, presented my calculation of damages and included a discussion of the Central Valley Project (CVP), the Central Valley Project Improvement Act (CVPIA), and the issues in the current litigation (affirmative report). In the affirmative report, I calculated damages using proportionality percentages set forth in a joint trial exhibit already in evidence and corresponding percentages produced in discovery for later years. As a check, I also calculated damages using proportionality percentages I derived directly from annual cost allocation spreadsheets that the Bureau prepared during the damages period. On September 10, 2021, I issued a supplemental report to fix minor formula errors in the latter set of calculations. As explained in the supplemental report, the errors did not affect my primary calculations using the joint trial exhibit; nor, aside from the impact of my fixing the formula errors on the alternative damages calculations described above, did they affect any of the conclusions stated in my August 12 affirmative report.

II. EXPERT QUALIFICATIONS AND PREVIOUS TESTIMONY

5. My qualifications and experience, including a copy of my resume, were addressed and included in my affirmative report.

6. I am responsible for the services performed and the opinions given herein and have personally rendered or reviewed the analysis performed by the members of our staff with respect to them. Use of the words “I”, “my”, “we”, and “our” throughout this report means myself and the BDO professionals working under my direction and supervision.
7. All work performed by BDO was completed in accordance with the American Institute of Certified Public Accountants (AICPA) Statement on Standards for Forensic Services.¹ These standards require, in part, that the practitioner obtain sufficient relevant data to afford a reasonable basis for conclusions or recommendations in relation to any professional services provided. I have done so for the work performed and opinions expressed herein.
8. The documents, data and information that I considered in performing my analysis are the types of documents, data and information that experts in my field typically consider and rely upon in performing similar damages engagements.

III. SUMMARY OF OPINIONS

9. Based on my review and analysis of the Government’s expert disclosures I find no basis to modify my damages calculations.
10. The Government’s expert disclosures do not address or identify the complete basis for the opinions expressed in the disclosures. My rebuttal opinions are of necessity limited to the information described in the disclosures. Should the Government and its experts provide the requisite information for the opinions expressed I will, if necessary, update my rebuttal opinions.
11. Both the Plaintiffs and the Defendant agree that the damages in this case should be calculated as the difference between what the Defendants have paid (amounts billed by the Government) and what the Defendants should have been charged, applying proportionality. The calculation of what the Defendants should have been charged should be done using the cost allocations, methods, and data in place at the time the charges were levied during the damages period.² During the 2018 trial, the parties jointly submitted an exhibit—Joint Exhibit 2—documenting the CVP water and power users’ respective allocations for CVP repayment over rolling ten-year periods through fiscal year 2015 and calculating the percentages that would have been used to calculate proportional Mitigation and Restoration

¹ Statement on Standards for Forensic Services (SSFS) No. 1 (FS sec. 100).

² The damages period is FY2008 through FY2020.

(M&R) charges. As I explained in my affirmative report, Joint Exhibit 2 and corresponding data provided in discovery for later years, represent the historical CVP cost allocations during the damages period. Those are the data that should be used in calculating damages.

12. The Government's damages calculations are inconsistent with the approach used during the damages period. As explained in the expert disclosures, the calculations reflect post hoc changes that depart significantly from the historical cost allocations, methods, and data that the Government would have used to calculate charges had it applied proportionality during the damages period. The Government's damages calculation is based on adjustments that are speculative and counterfactual, and the Government has provided no justification for why its calculations constitute a proper measure of Plaintiffs' damages.
13. Adjustments that have not been explained adequately or justified should be rejected. In discovery, the Government listed 12 cost categories that it treated differently in deriving proportionality percentages for its damages calculations compared to how it historically treated those costs in its annual CVP cost allocations and Joint Exhibit 2.³ For most of those categories the Government has not described the costs at issue or explained the purported reason for the changed treatment.
14. In at least some cases, the different treatment appears to reflect a retroactive application of certain new methodologies that the Bureau adopted in the CVP Final Cost Allocation Study (CAS), which it issued in 2020 (after the charges at issue in this case had been calculated and assessed) and stated that it would apply prospectively beginning with fiscal year 2021.⁴ The Government's expert disclosures do not identify the basis for applying these changes to a calculation involving damages for a prior period. This retroactive application should be rejected not only because it is counterfactual and unsupported but, also, because it is being done in an unprincipled and inconsistent fashion. The Government seems to be applying certain concepts from the 2020 study retroactively to reduce plaintiffs' damages in this case, but has not proposed to apply the study retroactively to re-state the plaintiffs' underlying

³ See Defendant's response to plaintiffs' interrogatory no. 27.

⁴ See Bureau of Reclamation, Central Valley Project Final Cost Allocation Study 103-04 (2020), <https://www.usbr.gov/mp/cvp/docs/cvp-final-cost-allocation-study-2020.pdf> (2020 CAS) (discussing going forward implementation of the 2020 CAS). See also Defendant's response to plaintiffs' interrogatory nos. 21 and 23; U.S. Bureau of Reclamation, News Release Archive, Reclamation ends decades of financial uncertainty for water and power users of the Central Valley Project (Jan. 14, 2020), <https://www.usbr.gov/newsroom/newsroomold/newsrelease/detail.cfm?RecordID=69163> ("The Cost Allocation Study will be reflected in rates for 2021 . . .") (last accessed Sept. 10, 2021).

CVP repayment obligations during the damages period and refund excess collections. Nor is the Bureau using it to re-compute either the CVP repayment obligations or the M&R payments for which non-plaintiff contractors were responsible during the same time periods.

15. The Government's most significant departure from historical CVP cost allocation is its subtraction from water users' allocations of costs that water users must repay the United States related to the construction of CVP water distribution systems and San Felipe "out of basin" facilities. Holding everything else constant, the Government's exclusion of CVP water distribution systems and San Felipe out of basin facilities accounts for the majority of the difference between the Government's calculation of damages and ours.
16. The Government's witnesses acknowledge that the exclusion of these costs is a departure from historical practice,⁵ but do not offer a sound basis for calculating damages using cost allocations different from those that were in effect during the damages period. One witness, Dr. Taylor, asserts that the original inclusion—in place for thirty years—should have been changed in 1993, but was not "corrected" until "the implementation of the final cost allocation in 2020."⁶ But the 2020 study states that it applies prospectively, and neither explains nor justifies retroactive cost allocation changes for purposes of computing damages.
17. Dr. Taylor suggests several other rationales for excluding distribution systems costs.⁷ The offered rationales do not justify exclusion because none was persuasive enough to be adopted by the Bureau during the damages period or is a persuasive basis to justify exclusion now for purposes of calculating damages. Moreover, neither Dr. Taylor nor any of the other Government witnesses addresses the reasoning behind the also-excluded San Felipe costs or the other cost categories for which the Government proposes different accounting treatment than was used historically.

IV. BASES FOR OPINIONS

18. Both sides agree that damages in this case are the difference between what plaintiffs actually paid during the damages period (fiscal year 2008 through fiscal year 2020) and what the Bureau should have charged during that period applying proportionality.⁸ The parties

⁵ See Expert Disclosure of Steve Pavich (Pavich Disclosure) at 4; Expert Disclosure of Dr. William (Bill) J. Taylor (Taylor Disclosure) at 4.

⁶ Taylor Disclosure at 4.

⁷ *Id.* at 3-5.

⁸ Expert Disclosure of Mr. Spencer Walden (Walden Disclosure) at 2.

disagree about how to calculate what the Bureau should have charged the plaintiffs. The most consequential difference concerns how the parties quantify the “water and power users’ respective allocations for repayment of the Central Valley Project” (CVPIA § 3407(d)(2)(A)) to which the M&R charges at issue in this case should be proportional.

19. I explained in my affirmative report that, to avoid undue speculation, any assessment of what power contractors should have paid during the damages period should reflect the facts and circumstances that existed at the time when the charges were levied.⁹ For purposes of measuring proportionality, that means using the CVP cost allocations that were in effect when the M&R charges were imposed.
20. As I further explained,¹⁰ Joint Exhibit 2, which the parties introduced at trial, was the parties’ then-agreed-upon calculation of water and power users’ respective allocations for repayment of the Central Valley Project on a ten-year rolling average basis through FY 2015 based upon the Bureau’s actual, historical CVP cost allocations for power and water users. The Government’s response to plaintiffs’ interrogatory no. 25 provided corresponding figures computed on the same basis for later years.¹¹
21. The Government’s expert disclosures confirm that Joint Exhibit 2 reflected the Bureau’s historical allocation of CVP costs during the damages period. *See* Pavich Disclosure at 4 (describing Joint Exhibit 2 as reflecting the allocations “that [were] used historically”).
22. The Government’s disclosures confirm that their damages calculations do not use the Bureau’s historical cost allocations to measure proportionality. Instead, they adopt new cost allocation assumptions “that are different than what was used historically” (*id.*) and apply the new assumptions “retroactively . . . to all CVP plant-in-service allocations” (*id.* at 4-5).
23. Mr. Pavich’s disclosure states (at 4) that “[a] list of all costs included/excluded in the CVPIA proportionality calculations is available in a separate file (refer to Bates numbers: GOV0000958-959), which are consistent with the assumptions used in the CAS. There are several key CAS assumptions used for CVPIA proportionality calculations that are different than what was used historically (see Joint Exhibit 2).” But neither Mr. Pavich or Mr. Walden nor Dr. Taylor explain how, to what extent, or why the Government used the 2020 CAS for purposes of developing the Government’s damages calculation. In any event, it is neither

⁹ Affirmative Report ¶ 45.

¹⁰ *Id.*, ¶ 60.

¹¹ *Id.*, ¶ 61.

sound nor sensible to calculate what charges would have been imposed in the period 2008-2019 by applying a methodology developed in 2020 that is based on assumptions contrary to those that were operative during the damages period.

A. THE DEFENDANT’S DISCLOSURES PROVIDE NO METHODOLOGICAL JUSTIFICATION FOR DEFENDANT’S DAMAGES CALCULATION

24. The Defendant has provided three disclosures from possible expert witnesses: a four-page disclosure from Mr. Spencer Walden, an accountant with the Bureau of Reclamation concerning “how the Government calculated damages”; a six page disclosure of from Dr. William Taylor, an economist with the Bureau “to provide testimony concerning the role and appropriateness of the U.S. Bureau of Reclamation’s (Reclamation) cost allocation in this case;”¹² and a six-page disclosure from Mr. Steve Pavich, an economist with the Bureau, “concerning the percentages used to calculate proportionality for CVPIA Restoration Fund Payments.”¹³
25. Mr. Walden states, “In general, the damages amount is the difference between what was paid and what should have been paid.”¹⁴ His disclosure further asserts that his damages calculation is “consistent with the court’s opinion,” and that the amount of Plaintiffs’ damages is \$68,154,911.¹⁵ This is the same damages figure that the Defendant provided in discovery as a preliminary calculation in response to interrogatory no. 17. While the parties agree that the damages amount should be calculated as the difference between what plaintiffs actually paid and what they should have paid during the damages period had the Bureau implemented the statutory proportionality requirement, Mr. Walden’s damages calculation is substantially less than my calculation of \$81,872,385.¹⁶
26. The difference between Plaintiffs’ damages calculation and Defendant’s damages calculation seems to depend upon two methodological differences. First, the Government’s damages calculation is premised upon retroactive adjustments to the actual historical ten-year rolling averages of water and power customers’ respective allocations of responsibility to repay CVP costs during the damages period. Second, the Government’s calculation also uses a “two-year

¹² Walden Disclosure at 1; Taylor Disclosure at 1.

¹³ Pavich Disclosure at 1.

¹⁴ Walden Disclosure at 2.

¹⁵ *Id.* at 2, 4.

¹⁶ Affirmative Report at ¶ 76.

lag” not in effect during the damages period and instead first implemented by the Bureau to calculate power customers M&R charge payments on a going-forward basis, beginning in FY 2021.¹⁷

27. Although Mr. Walden’s disclosure describes the mathematical formula the Government used to calculate its damage amount, and the use of the two-year lag, his disclosure does not acknowledge the use of the ten-year rolling averages that do not reflect the cost allocations in use at the time. He instead refers to the use of “appropriate allocation percentages.” Specifically, he states: “For determining power’s M&R payment, Reclamation will apply *the appropriate allocation percentage identified from the ten-year rolling average for repayment of the CVP to actual water receipts*, inclusive of both discretionary payments and non-discretionary payments using a two-year lag.”¹⁸ The adjustments that the Government intends to make to the ten-year rolling average percentages are revealed in Mr. Pavich’s disclosure.

28. The Pavich disclosure confirms that Joint Exhibit 2 represents the “historical” CVP cost allocation figures, the same conclusion I reached and explained in my affirmative report. His disclosure further explains that the Bureau’s 2020 CAS is used to develop these charges currently and going forward.¹⁹ But the Bureau is apparently not using the 2020 CAS in its entirety to calculate damages; it has instead adjusted the historical CVP cost allocation figures in Joint Exhibit 2 to account for certain methodological changes in the 2020 CAS.²⁰

He states by way of explanation:

The CVPIA proportionality percentages exclude direct assigned and certain other costs that were excluded from the SCRB methodology in the [2020] CAS. A list of all costs included/excluded in the CVPIA proportionality calculations is available in a separate file (refer to Bates number: GOV0000958-959), which are consistent with the assumptions used in the CAS. There are several key CAS assumptions used for CVPIA proportionality calculations that are different than what was used historically (see Joint Exhibit 2).

¹⁷ *Id.* at ¶¶ 38-39 (discussing two-year lag versus historical annual approach).

¹⁸ Walden Disclosure at 2 (emphasis supplied).

¹⁹ Pavich Disclosure at 4.

²⁰ *Id.*

Id. However, Mr. Pavich does not provide support for calculating damages using “key assumptions” that differ from the historical inputs.

29. Dr. Taylor’s disclosure discusses the Bureau’s cost allocation process, including the direct assignment of certain costs and the use of the “separable cost remaining benefit” (SCRB) process to allocate other costs. Although Dr. Taylor’s disclosure addresses certain of the Government’s “adjustments” (which I address more fully below), his disclosure does not provide a justification for the Bureau’s use of the 2020 study assumptions to calculate damages rather than the historical ten-year rolling average CVP cost allocations that were in effect during the damages period.
30. Mr. Walden’s disclosure addresses the two-year lag that is the other major difference between my calculations and the Government’s. He says that the Bureau has implemented the two-year lag in order “[t]o set [M&R] bills for the upcoming fiscal year.”²¹ But Mr. Walden’s disclosure does not explain why it is appropriate to use the two-year lag for purposes of calculating Plaintiffs’ damages when it was not used for purposes of developing M&R charges during the damages period. I express no opinion on the Government’s use of a two-year lag to establish the charges for power on a going-forward basis.
31. The Government’s disclosures do not justify retroactively applying certain methodology changes in the 2020 CAS study to the damages period, when all of the M&R payments at issue in this case were computed and assessed before the 2020 study was completed. The same concerns holds with respect to the retroactive imposition of the two-year lag for purposes of calculating damages. No post hoc adjustments are appropriate because damages should reflect the charges that plaintiffs would have paid had the Bureau applied proportionality during the damages period based on then-extant data and the cost allocation studies and policies in effect at the time.

²¹ Walden Disclosure at 2.

B. THE ADJUSTMENTS AS DESCRIBED BY MR. TAYLOR ARE INAPPROPRIATE TO USE FOR DAMAGES CALCULATIONS IN THIS CASE.

32. Plaintiffs rely on the 1970 Cost Allocation Study (as updated in 1976).²² All bills sent and paid during the agreed damages period were calculated under the 1970 CAS, as updated.²³ The Government relies on the 2020 Cost Allocation Study, which the Government has only applied prospectively to CVP and CVPIA cost allocations in FY2021. As I explained in my affirmative report, Joint Exhibit 2 reflects the historical annual CVP cost allocations in place during the damages period through fiscal year 2015, the defendant's response to interrogatory 25 provides corresponding data through fiscal year 2019, and I based my calculations on those historical percentages.
33. Conversely, the Government's damages calculations rest on "several key CAS assumptions . . . that are different than what was used historically."²⁴ The Government applies these changed assumptions "retroactively . . . to all CVP plant-in-service allocations used in [its] analysis."²⁵ In discovery, the Government provided a listing of 39 cost categories and stated whether the costs were included or excluded from the allocations it used in computing damages.²⁶ A subsequent discovery response revealed that in twelve of the 39 categories the Government's damages calculations departed from the historical allocations reflected in Joint Exhibit 2.²⁷ The response to interrogatory no. 27 states:

We indicate in bold below whether Reclamation, in developing JX 2, included or excluded the referenced costs from the CVPIA proportionality calculation. After further analysis, Reclamation currently takes a different position with respect to whether certain of those costs should be included or excluded from the proportionality calculation.

The quoted discovery response refers to the Bureau having chosen to take a different position on the identified cost categories "[a]fter further analysis," but no such analysis is included as part of the disclosures. The twelve categories with "a discrepancy between JX 2's inclusion

²² The referenced update was issued on March 8, 1976. *See* Bates No. GOV0000105. We refer to it here as the 1976 update, though it is sometimes also referred to as the 1975 update.

²³ As I discuss below, the Bureau also performed a study in 2001 that reviewed the then-existing allocations, considered alternatives, and decided to keep the existing allocations in place.

²⁴ Pavich Disclosure at 4.

²⁵ *Id.* at 4-5.

²⁶ Bates Nos. GOV0000958-59.

²⁷ Defendant's response to plaintiffs' interrogatory no. 27.

or exclusion of certain costs and Reclamation's current position regarding whether those costs should be included or excluded from the proportionality calculation" were:²⁸

- Benefits (SCRB) used in the Final Cost Allocation Study (CAS): NOT APPLICABLE
- Fish & Wildlife Enhancement costs: EXCLUDED
- Pacific NW-Pacific SW Intertie (PACI) owned by WAPA: EXCLUDE
- Water distribution systems (repayment contracts): INCLUDE
- San Felipe Unit costs: INCLUDE
- Repayment obligations -- USACE (included in water rates): INCLUDE
- WAPA retired assets (included in water rates): INCLUDE
- Direct Assign -- Safety of Dams costs (15% reimbursable share): INCLUDE
- Folsom Safety of Dams not in repayment (not currently allocated): INCLUDE
- CVPIA-authorized construction costs (not currently allocated): INCLUDE
- Interest During Construction: INCLUDE
- Capitalized OM&R/Replacements (after FY-13): INCLUDE

34. For reasons I explained above and in my affirmative report, post hoc adjustments are inappropriate. The damages in this case should reflect the charges that plaintiffs would have paid had the Bureau applied proportionality during the damages period based on then-extant data and the cost allocation studies and policies in effect at the time.

35. I intended (as stated in my affirmative report) to comment here on the Government's specific adjustments. But the Government's disclosures do not discuss most of the categories as to which the Government changed its position from Joint Exhibit 2. While spreadsheets produced in discovery allow us to quantify the amounts included or excluded, neither the discovery nor the Government's disclosures describe the nature of the facilities or costs at issue or the basis for the Government's decision to treat the costs differently in its damage calculations than it did in its historical cost allocations and Joint Exhibit 2. The Government's failure to explain and support its modifications to the historical cost allocations is an independent reason to reject them.

36. The post hoc adjustment that had the biggest dollar impact on the Government's damages calculations was the removal of the capital costs of CVP water distribution systems and San

²⁸ *Id.* In this interrogatory response, the words "include," "exclude," and "not applicable" refer to whether Joint Exhibit 2 and response to interrogatory no. 25 included the costs in water and/or power users' allocations for CVP repayment. The categories excerpted above are those for which the Government adopted the opposite treatment in developing its damages calculation.

Felipe “out of basin” facilities. Those costs were included historically among the costs allocated to water users, and were included in the allocations used to develop the ten-year rolling averages in Joint Exhibit 2. The removed costs collectively amount to more than \$600 million. For example, the Government removed \$294,967,305 of water distribution system costs and \$329,860,459 of San Felipe costs from the amounts allocated to water users in the Bureau’s annual allocation spreadsheet for fiscal year 2015. The exact amounts vary from year to year, but are similar in magnitude. The removal of these costs significantly affected the Government’s damages calculation. I estimate that adding back only these costs (restoring them to their original treatment) would increase the Government’s computed damages to an amount that approximates our damages calculation.

37. The exclusion of these costs is a departure from practice during the damages period. In its 2001 cost allocation study,²⁹ the Bureau explained the prevailing treatment of local water distribution systems and other “single-purpose” facilities: “These facilities are included in the CVP cost allocation because Reclamation is responsible for collections under provisions of the repayment contracts. Their costs are allocated to the water supply purpose and then set aside in a separate repayment contract category.”³⁰ Tables ES-1, ES-2, and ES-3 of that report illustrate the treatment. Table ES-1 shows the “Plant-in-Service Total Cost in Existing Allocation” for M&I Water Users of \$436.5 million and Irrigation Water Users in the amount of \$1,476.2 billion.³¹ Tables ES-2 and ES-3³² show the breakdown of those totals. In each case, the table excludes “Repayment Contracts for Distributions Systems” from the “subtotals” used in setting water service contracts rates, an exclusion that makes sense because the amounts are being recovered under other contracts. But tables ES-2 and ES-3 include those costs when computing the totals that are carried into Table ES-1 stating the “Total Cost in Existing Allocation” for M&I and Irrigation Water Users.

²⁹ Bureau of Reclamation, Central Valley Project Cost Allocation Study (2001), https://www.usbr.gov/mp/cvp/docs/cost_alloc_study_fnl/cost_alloc_full_doc_05-2001.pdf (2001 CAS).

³⁰ 2001 CAS at III-2, Bates No. GOV0000636. *See also* Central Valley Project California, Reallocation of CVP costs FY1969-70, Bates Nos. GOV00000189, GOV0000208, GOV0000210, GOV0000214, GOV0000222, GOV0000232-33, GOV0000251, and GOV0000264.

³¹ 2001 CAS at ES-5, Bates No. GOV0000617.

³² *Id.* at ES-6, Bates No. GOV0000618.

38. In 2001, the Bureau considered a proposal to exclude “local distribution facilities that are subject to repayment contracts” from the specific cost totals used to allocate joint costs,³³ but declined to adopt it. The Bureau concluded that there were no “compelling reasons” to adopt the proposed alternative allocation method.³⁴ Instead, the Bureau decided that the existing allocation was “the preferred allocation alternative,” which the Bureau would “continue to use . . . for CVP plant-in-service allocations.”³⁵
39. Dr. Taylor’s rationale for excluding these costs from the Government’s calculations here amounts to a claim that the historical treatment was wrong and was corrected in the 2020 cost allocation study.³⁶ Even if that were correct, the 2020 study applies prospectively and affects CVP water rates, M&R charges, and repayment obligations beginning with fiscal year 2021. It does not purport to change retroactively the cost allocations that were previously in effect, nor does it justify modifying those historical cost allocations retroactively for purposes of calculating damages.
40. Dr. Taylor appears to base his recommendation in part on Business Practice Guidelines (BPGs) considered by the Government in 1993, but never implemented. Those BPGs did suggest that water distribution systems be excluded from the percentages, and Dr. Taylor points to the BPGs as apparent support for excluding distribution system costs as part of the percentage used for CVPIA purposes. Dr. Taylor has not cited the authority relied upon for this methodology change, but instead stated “the thought process utilized in the development of the 1975 cost allocation update was not consistent with how this information should be used and that individual contractor indebtedness to the federal government should not be considered when looking at project cost recovery.”³⁷ But rather than supporting his position, I read Dr. Taylor’s disclosure as admitting that his adjustment was not implemented during the damages period.³⁸

³³ See *Id.* at IV-7, IV-10, Bates Nos. GOV0000649, GOV0000652.

³⁴ *Id.* at VII-2, Bates No. GOV0000687.

³⁵ *Id.* at ES-5, Bates No. GOV0000617.

³⁶ See Taylor Disclosure at 4.

³⁷ *Id.* at 4.

³⁸ Even if those guidelines had been implemented, the passage to which Dr. Taylor seems to be referring would have provided for the exclusion of “distribution and drainage” facilities constructed or financed for the “exclusive use of individual Water Contractors.” See Joint Exhibit 6 at 28 n.18 (Bureau of Reclamation, *Title 34 Public Law 102-575, Central Valley Improvement Act, Central Valley Project - California, Revised Interim Guidelines: Restoration Fund Payments and Charges*, 28 n.18 (1993), https://www.usbr.gov/mp/cvp/docs/cvpia_revised_interim_guidelines.pdf)).

41. To recap the chronology, there have been two parallel timelines: one involving CVP cost allocation and the other involving proportional CVPIA charges. For CVP cost allocation, distribution system and San Felipe costs have been included and allocated to water users since at least the 1970s. In 1993, the Bureau proposed to exclude distribution system costs from the CVPIA proportionality calculations, but never finalized or implemented that provision. In the 2001 CVP cost allocation study, the Bureau considered excluding the distribution system costs and separating them from the CVP cost allocation, but decided not to do so. In the 2020 CVP cost allocation study, the Bureau took the step it considered but declined to take in 2001. The Bureau is applying the 2020 study to CVP rates prospectively, beginning with 2021 rates, but here relies on the study to justify removing distribution system costs from the historical CVP cost allocations for purposes of calculating damages. I disagree with that step.
42. Dr. Taylor contends that “[w]hen Reclamation relies on the ‘CVP cost allocation’” to establish proportional M&R charges “it is the SCRB, and not the whole allocation, that reflects the appropriate allocation to use.”³⁹ As he observes, there are \$3.9 billion of plant-in-service costs identified in the CVP for final cost allocation, but of that amount only \$2.2 billion had to be allocated using the SCRB method because the remainder had prescribed cost assignments. *Id.* The distribution system costs are among those with prescribed cost assignments; they are to be repaid by the relevant water contractors under repayment contracts between the United States and the contractors.
43. I disagree with Dr. Taylor’s contention that the CVPIA proportionality calculations should take into account only the subset of costs that are allocated to water or power users by the SCRB method and should exclude costs allocated to those users by other means. The CVPIA’s proportionality provision refers to water and power users’ “respective allocations for [CVP] repayment” (CVPIA § 3407(d)(2)(A)) and does not distinguish among costs attributable to water and power users based on *how* they have been allocated or whether they had prescribed cost assignments. Nor does it distinguish among costs based on whether they are payable by all water or power users or sub-allocated to a subset of them. Focusing only

Even if it had been put into effect, this would not have justified the exclusion of the costs of San Felipe out of basin facilities serving more than one contractor.

³⁹ Taylor Disclosure at 3.

on those costs that are allocated using the SCRB process captures only a portion of the costs for which water or power users are responsible and is, from an accounting standpoint, unduly narrow.

44. Dr. Taylor states that “[r]eliance on the allocation as a whole mixes multiple allocation processes and the result is hodge-podge.”⁴⁰ Again I disagree. Using multiple allocation processes to allocate costs is not uncommon. To the contrary, multiple process cost allocations are commonly utilized to achieve the fundamental requirement for a cost allocation: to causally link the allocable cost to the activity or cost objective to which the costs are allocated. Different cost types often have different causal connections to the cost objectives to which they are allocated and, as a result, must be allocated using different allocation processes. The end result of a multiple process allocation is to identify and accumulate the total cost of cost objectives. The sum of the direct (separable) and indirect or allocable costs is the total cost of a cost objective (project or purpose). I agree with Dr. Taylor when he states “[t]he sum of the separable and joint cost allocated to each purpose becomes the total cost for each purpose”⁴¹ The multiple process allocation achieves the objective of fully recovering the total cost of the process.
45. Dr. Taylor also seems to suggest that the distribution facilities (and, presumably, the San Felipe “out of basin” facilities) are in some sense outside of and not really part of the CVP.⁴² However, Dr. Taylor’s approach is contrary to decades of historical practice including the costs of these facilities within the CVP cost allocation process, and is contrary to the 2020 study’s acknowledgement that the costs “remain part of the overall CAS.”⁴³ Additionally, counsel informs me that Congress included as an authorized purpose of the CVP the “construction under the provisions of the Federal reclamation laws of such distribution systems as the Secretary of the Interior deems necessary”⁴⁴ and listed such systems among

⁴⁰ *Id.* at 3.

⁴¹ *Id.* at 3.

⁴² See Taylor Disclosure at 5 (“Ultimately, what constitutes the water and power users’ respective allocations for repayment of the Central Valley Project has been determined in the CVP final cost allocation. First, the CVP is defined to extend to the point where the CVP water or power is transferred to the contractor.”); *id.* (asserting that recovery of the costs of the distribution system is “repayment by the water and power contractor for their business and not the CVP”).

⁴³ 2020 CAS at 19.

⁴⁴ 54 Stat. 1198, 1200 (Oct. 17, 1940).

the “principal” works of the CVP.⁴⁵ Dr. Taylor’s departure takes an approach that is inconsistent with the Bureau’s historical practice.

46. Dr. Taylor further appears to suggest that distribution system costs should be removed from the allocations used to establish proportional M&R charges because the costs will be repaid pursuant to individual repayment contracts rather than through water service rates.⁴⁶ But the CVPIA’s proportionality provision focuses on whether costs are allocated to water users or power users, not the particular mechanism used to accomplish repayment. Repayment contracts and water service contracts are two means of recovering CVP costs that contractors must repay. To prevent double counting, it is appropriate to deduct repayment contract amounts from the total allocations to isolate the remainder that must be recovered through water service contracts. But that rate-setting step does not remove the costs from water’s total allocation of CVP costs. See Tables ES-1, ES-2, and ES-3 of the 2001 CAS report.
47. Dr. Taylor also alludes to the fact that some distribution systems were built by water contractors with funds borrowed from the United States and not by the United States itself.⁴⁷ That may be, but it is not clear why it should matter for purposes of the damages calculation in this case. Regardless of who built them, all of the facilities at issue are owned by the United States and were built for delivery of CVP water, financed by the United States with funds that the contractors must repay, and the Bureau historically included the costs in water users’ CVP cost allocations during the damages period.
48. Finally, Dr. Taylor appears to suggest that water distribution system costs should be excluded from the CVP cost allocation as a matter of equity because power contractors’ electric distribution system costs are not included.⁴⁸ But this overlooks a crucial difference. Power contractors financed the construction of their own distribution systems, so there is no federal repayment obligation to include in or exclude from the CVP cost allocation. In short, power

⁴⁵ Public Law 86-488, 74 Stat. 156 (1960); Public Law 90-72, 81 Stat. 173 (1967).

⁴⁶ Taylor Disclosure at 5 (“CVP Ratesetting Policies make it clear that when a feature (isolated or out of basin) benefits only a contractor (or group of contractors) that the costs will not be shared by all CVP contractors. To include investment for some contractors and not for others does not result in a fair or equitable proportion of what CVP costs are allocated to a project purpose.”); Defendant response to interrogatory no. 19 (“Water distribution systems, including San Felipe Unit costs that are covered under repayment contracts, are excluded from the CVPIA proportionality percentages.”).

⁴⁷ Taylor Disclosure at 5.

⁴⁸ E.g., Taylor Disclosure at 5: “In many ways, distribution systems are similar to power lines providing electricity to homes and businesses.”; Bates No. GOV0001056-57 (“To assure equivalency and equitable treatment of water and commercial power investments when determining allocation percentages between the two functions for the purposes of allocating CVPIA costs, it is appropriate to only consider allocating the costs of main CVP facilities.”).

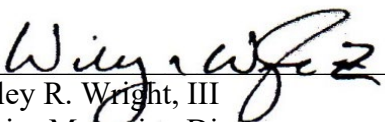
contractors and water contractors are differently situated in this respect, so it is not inequitable to treat them differently.

V. DOCUMENTS, DATA OR OTHER INFORMATION CONSIDERED

49. The list of documents, data or other information I considered in conjunction with this report can be found in Attachment I.

VI. CONCLUSIONS

50. The Government's retroactive application of the 2020 CAS is inappropriate and inconsistent with the cost allocations performed using the methodologies applicable during the damages period.
51. The Government's exclusion of certain costs (e.g., water distribution systems and San Felipe, out of basin) from the allocation process is contrary to the treatment of these costs during the damages period.
52. The Government has failed to identify and establish fully the basis for the cost adjustments they have made.
53. The Government's adjustments are inappropriate.
54. The Government's expert disclosures do not contain any data or information that would alter the damages amount included in my affirmative report.



Wiley R. Wright, III
Senior Managing Director

September 13, 2021
Date

ATTACHMENT I

Documents, Data or Other Information Considered

DOCUMENTS, DATA OR OTHER INFORMATION CONSIDERED

1. Expert Disclosure of Spencer Walden
2. Expert Disclosure of Dr. William (Bill) J. Taylor
3. Expert Disclosure of Steve Pavich
4. 54 Stat 1198, 1200 (October 17, 1940)
5. Public Law 86-488, 74 Stat. 156 (1960)
6. Public Law 90-72, 81 Stat. 173 (1967)
7. All documents, data, or other information identified in Attachment II to my affirmative report.

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

NORTHERN CALIFORNIA POWER
AGENCY, *ET AL.*,

Plaintiffs,

v.

No. 14-817C
(Judge Tapp)

THE UNITED STATES,

Defendant.

SUPPLEMENTAL EXPERT DISCLOSURE

Pursuant to Rule 26(a)(2)(C) of the Rules of the United States Court of Federal Claims (RCFC), defendant, the United States, makes the following supplemental disclosure of expert testimony. This disclosure is based upon information reasonably available to us, and we reserve the right to supplement it as we obtain additional information.

The Government may call Steve Pavich to provide testimony concerning the percentages used to calculate proportionality for CVPIA Restoration Fund payments. Mr. Pavich's opinions are based upon his experience as an Economist. Mr. Pavich is currently an Economist at the Bureau of Reclamation (Reclamation) and works in the California-Great Basin Region located in Sacramento, California. Mr. Pavich has been at his current Economist position since November 2013. In this position, he uses his technical expertise and experience to provide support in the

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areas of cost allocation, cost-benefit analyses, ability-to-pay analyses, and to conduct general economic research and analysis supporting water resource management in the Central Valley Project (CVP). He routinely collaborates with internal staff and key stakeholders on issues related to cost allocation in the CVP.

Mr. Pavich may testify concerning the following assumptions from the Final Cost Allocation Study (2020) that represent a change from Joint Exhibit 2 and the rationales for that change described below.

Assumptions included below are those that represent change from Joint Exhibit 2

- Costs allocated only to the authorized purposes of the CVP in the Separable Cost-Remaining Benefits (SCRB) used in the Final Cost Allocation Study (CAS):

INCLUDE¹

- CVPIA Section 3702(d)(2)(a) states that: “The amount of the mitigation and restoration payment made by Central Valley Project water and power users, taking into account all funds collected under this title, shall, to the greatest degree practicable, be assessed in the same proportion, measured over a ten-year rolling average, as water and power users' respective allocations for repayment of the Central Valley Project”. Accordingly, only CVP costs that are **allocated** for repayment should be included in CVPIA proportionality; these costs were included in the SCRB cost allocation in the Final CAS.
- Other CVP costs that are “direct assigned” (and therefore not “allocated” for repayment) should not be included in CVPIA proportionality; these are the costs that were excluded from the SCRB cost allocation in the Final CAS.
- Only costs that support the authorized purposes of the CVP that are subject to allocation per the SCRB methodology should be included in the

¹ “INCLUDE” means the Government included the costs in calculating damages. “EXCLUDE” means the government excluded the costs in calculating damages.

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calculation of proportionality because they reflect investment in the financially- and operationally-integrated CVP.

- Fish & Wildlife Enhancement costs: NOT APPLICABLE
 - These costs were listed in Mr. Wright's rebuttal report, but they do NOT represent a change from Joint Exhibit 2 because these costs are nonreimbursable and do not affect the proportionality percentages that only apply to irrigation, M&I, and commercial power; therefore they are "not applicable."
- Pacific NW-Pacific SW Intertie (PACI) owned by WAPA: INCLUDE
 - Included in the proportionality percentages because they were included in the SCRB allocation of CVP costs in the Final CAS
 - PACI costs were included in the Separable Costs Remaining Benefits (SCRB) allocation because when PACI was constructed, it was authorized to be used to enable the CVP to firm its hydropower output on behalf of the project. Additionally, the federally-owned portion of the line is directly interconnected to the CVP power transmission system.
- Water distribution systems (repayment contracts): EXCLUDE
 - Excluded from the proportionality percentages because they were excluded in the SCRB allocation of CVP costs in the Final CAS. These costs represent a direct-assigned cost.
 - Water distribution systems are not financially- and operationally-integrated in the CVP.
- San Felipe Unit costs: EXCLUDE
 - Excluded from the proportionality percentages because they were excluded in the SCRB allocation of CVP costs in the Final CAS; they represent a direct-assigned cost.
 - San Felipe Unit out-of-basin facilities are not financially- and operationally-integrated in the CVP.
- Repayment obligations -- USACE (included in water rates): EXCLUDE

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- Excluded from the proportionality percentages because they were excluded in the SCRB allocation of CVP costs in the Final CAS; they represent a direct assigned cost.
 - USACE repayment obligations are not financially- and operationally-integrated in the CVP
- WAPA retired assets (included in water rates): EXCLUDE
 - Excluded from the proportionality percentages because they were excluded in the SCRB allocation of CVP costs in the Final CAS; represent a direct-assigned cost
 - WAPA retired assets are not part of current CVP operations.
- Safety of Dams costs (15% reimbursable share): EXCLUDE
 - Excluded from the proportionality percentages because were excluded in the SCRB allocation of CVP costs in the Final CAS; represent a direct-assigned cost (cost recovery for Safety of Dams costs are prescribed by law).
 - Safety of Dams costs do not generate new benefits in the CVP; they perpetuate existing benefits.
- Folsom Safety of Dams not in repayment (not currently allocated): EXCLUDE
 - Excluded from the proportionality percentages because they were excluded in the SCRB allocation of CVP costs in the Final CAS; represent a direct-assigned cost (cost recovery for Safety of Dams costs are prescribed by law).
 - Safety of Dams costs do not generate new benefits in the CVP; they perpetuate existing benefits.
- CVPIA-authorized construction costs (not currently allocated): EXCLUDE
 - Excluded from the proportionality percentages because they were excluded in the SCRB allocation of CVP costs in the Final CAS.
 - CVPIA is a separate program distinct from the CVP with its own provisions for cost allocation and recovery.
 - It is not appropriate to include CVPIA costs in calculating proportionality under CVPIA as that would involve circular reasoning.

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- Interest During Construction: EXCLUDE
 - IDC recorded in Sch. 1 of the CVP financial statements is only charged to M&I and commercial power for repayment purposes; it is not equitable to include recorded IDC in proportionality percentages because it would unfairly skew costs since IDC associated with Irrigation is not subject to repayment.
- Capitalized OM&R/Replacements (after FY-13): EXCLUDE
 - Excluded from proportionality percentages because represents O&M cost of CVP, not construction subject to repayment
 - Capitalized OM&R costs do not generate new benefits in the CVP; they perpetuate existing benefits.

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BRIAN M. BOYNTON
Acting Assistant Attorney
General

MARTIN F. HOCKEY, JR.
Director

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October 21, 2021

In the Matter of:

Northern California Power Agency v. USA

January 17, 2018

Trial

Vol. 2

Condensed Transcript with Word Index



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Northern California Power Agency v. USA

1/17/2018

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1 IN THE UNITED STATES COURT OF FEDERAL CLAIMS
2
3 NORTHERN CALIFORNIA POWER)
4 AGENCY, et al.,)
5 Plaintiffs,)
6 vs.) No. 14-817C
7 THE UNITED STATES,)
8 Defendant.)
9
10
11 Courtroom 15
12 Phillip Burton U.S. Courthouse
13 450 Golden Gate Avenue
14 San Francisco, California
15 Wednesday, January 17, 2018
16 9:31 a.m.
17 Trial Volume 2
18
19
20 BEFORE: THE HONORABLE THOMAS C. WHEELER
21
22
23
24
25 Vicki Haines, CSR No. 5995

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1 APPEARANCES (Continued):
2
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1 I N D E X
2
3 Witness: Direct: Cross: Redirect: Recross:
4 G. TRUJILLO-BIXBY
5 By Ms. Bae 275 252 331
6 By Mr. Murray 319 306
7
8 D. MOONEY
9 (Rule 611)
10 By Mr. Ralston 332
11
12 E X H I B I T S
13
14 Note: All exhibits were premarked and admitted into
15 evidence prior to trial unless otherwise indicated
16 below.
17
18 Number: Admitted: Withdrawn/Stricken:
19 Defendant's:
20 2 300
21 9 302
22 Plaintiffs'
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24
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1 (Pages 247 to 250)

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PROCEEDINGS

(Proceeding called to order, 9:36 a.m.)
 THE CLERK: All rise.
 The United States Court of Federal Claims
 is now in session. The Honorable Thomas E. Wheeler
 presiding.

THE COURT: Good morning.
 ALL COUNSEL: Good morning, Your Honor.
 THE COURT: Please be seated.

On the record for day two of our trial in
 Northern California Power Agency versus the United
 States. I think we're ready for cross-examination.

Ma'am, you understand that you're still
 under oath this morning?

THE WITNESS: Yes, sir.

THE COURT: Okay.

MS. BAE: Your Honor, I just wanted to
 confirm before I start that I will be doing my cross
 and my direct, but I will do my cross first and then
 notify for the record when I'm switching to my
 direct examination.

THE COURT: Perfect.

///

///

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CROSS-EXAMINATION

BY MS. BAE:

Q Good morning, Ms. Trujillo-Bixby.

A Good morning.

**Q Do you recall testifying yesterday about
 whether water customers had been subjected to late
 fees or interest for late restoration fund payments?**

A Yes.

**Q So if water had paid late fees or interest,
 do you know whether or not those fees or interest
 would go into the Restoration Fund?**

A They would not go into the restoration
 fund.

Q What type of fund would they go into then?

A They would go into a Treasury fund for
 interest/penalty.

**Q And do you know why they would go into that
 fund and not the restoration fund?**

A It's a debt due to the government, not to
 Reclamation.

**Q And do you know if there's any guidance or
 authority for that point?**

A There's a Treasury manual that discusses
 interest, penalties, and administrative fees, and
 they go into a Reclamation fund.

253

**Q I'd like to pull up Defendant's Exhibit
 Number 25.**

**Ms. Trujillo-Bixby, do you recognize this
 document?**

A Yes.

**Q Is this the Treasury manual that you were
 just referring to?**

A Yes.

**Q And do you know where in this document it
 provides the guidance you were just speaking of for
 where to direct interest and late fees received by
 the bureau? There's a paper copy, if it helps you
 to go through that. I think it will be in the red
 binder.**

A In this one?

Q The one with the red cover.

A Oh, gotcha.

So there's a specific section, section 7130
 that deals with interest, penalties and
 administrative fees.

Q Okay. What page is that on?

A On page two.

**Q And how does that page provide that
 interest and penalties should go into a separate
 fund?**

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A Well, this is a fund that's identified in
 the Treasury manual. So it talks about that these
 are Reclamation fees that start accumulating on the
 61st day for interest, and it describes when
 penalties start accruing and administrative fees,
 but you also have to tie this directive in with our
 directives and standards for our -- for our
 finances, and it talks about and identifies the
 specific fund that these would go into in
 Reclamation as an interior -- the name of the fund
 is for Interior, Department of Interior, not
 Reclamation fund and it's not a restoration fund.

**Q Does that mean that this fund that late
 fees and interest would go into is a Department of
 Interior-wide fund rather than just a Bureau of
 Reclamation fund?**

A Correct.

**Q Can you turn to Defendant's Exhibit 26,
 please.**

**Would this be the Reclamation Directives
 and Standards that you were just referencing?**

A Yes.

**Q And can you explain how this document ties
 with the other document to show where late fees and
 interest would go?**

255

1 A Yes. Let me find it here.
2 THE COURT: Can we pause just one moment.
3 My binder came apart.

4 MS. BAE: No problem.

5 THE COURT: Let me just catch up.

6 MS. BAE: Sure.

7 THE WITNESS: I'm trying to find the right
8 page myself here.

9 BY MS. BAE:

10 **Q No problem. Take your time.**

11 A Okay. It's on page 17, and it's the fourth
12 entry up from the bottom, and it talks about its
13 Treasury symbol 145000.21, and this goes into the
14 Treasury fund group of Special Fund Receipt
15 Accounts, and the Treasury symbol name is
16 Miscellaneous Interest, Reclamation Fund, Interior.
17 And then it identifies the fund, FBMS fund symbol
18 that we use, the fund type is identified, the FFS
19 fund that it used to be and then what we have titled
20 it, our fund name.

21 **Q Okay. And, Your Honor, before I delve back**
22 **in, I just wanted to note that we have provided the**
23 **Defendant's Exhibit binder and plaintiffs have**
24 **provided a Joint Exhibit binder and their own**
25 **witness binder. We have also provided a separate**

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1 witness binder of Plaintiffs' Exhibits that we are
2 planning on using with Ms. Trujillo-Bixby just in
3 case they were not included already in plaintiffs'
4 witness binder groups.

5 THE COURT: All right. Very well.

6 BY MS. BAE:

7 **Q So, Ms. Trujillo-Bixby, I'd like to turn**
8 **again to reconciliation, which you recall testifying**
9 **a little bit about yesterday, right?**

10 A Yes.

11 **Q Could you turn to Plaintiffs' Exhibit 122.**
12 **Can we just blow up the text a little bit.**

13 **And do you recall discussing this document**
14 **with Mr. Murray yesterday?**

15 A Yes.

16 **Q Going to the first page, do you see where**
17 **there's an e-mail from Sherry asking if there are**
18 **potentially \$10.5 million in CVPRF charges that had**
19 **not been collected?**

20 A Yes.

21 **Q Are you aware of whether this \$10.5 million**
22 **discrepancy that was shown by your spreadsheet**
23 **necessarily means that water customers have actually**
24 **failed to pay this entire \$10.5 million or whether**
25 **there were other reasons for this discrepancy?**

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1 A There are other reasons for the discrepancy
2 because my information was merely doing a comparison
3 of charges that are in the BORWORKS system and
4 comparing it to payments.

5 **Q Do you know what some of the other reasons**
6 **might be for there to be a discrepancy showing?**

7 A As we found when the reconciliation was
8 done for Westlands, the payment was made by
9 Westlands, but it was put into the water fund
10 instead of the restoration fund. There were some
11 errors also identified on the spreadsheets with the
12 total charges being counted twice in some cases, so
13 there was an error in that showing the charges being
14 more than they should have been. There were errors
15 in BORWORKS with charges being identified which
16 should not have been identified.

17 For example, all of the contractors under
18 the Cross Valley Canal, they are not subject to the
19 Friant surcharge, but yet they had been assessed
20 Friant surcharges in the BORWORKS system so that
21 resulted in it looking like they owed money for the
22 Friant surcharge when they really did not owe any
23 money.

24 **Q Thank you, Ms. Trujillo-Bixby.**

25 **And do you know whether the \$10.5 million**

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1 **discrepancy that's being discussed, do you know**
2 **whether that applies to all restoration fund charges**
3 **or only for the mitigation and restoration fund that**
4 **power pays into?**

5 A That's for all of the funds, not just the
6 mitigation and restoration.

7 **Q I'd like to turn to Plaintiffs'**
8 **Exhibit 134.**

9 **Do you recall discussing this document with**
10 **Mr. Murray yesterday?**

11 A Yes.

12 **Q And if you recall, this e-mail reflects**
13 **that Reclamation was planning to start with overpaid**
14 **contractors, and you had expressed a concern about**
15 **that. Do you recall that?**

16 A Yes.

17 **Q Do you know why it might make sense to**
18 **start with overpaid contractors rather than**
19 **underpaid contractors?**

20 MR. MURRAY: Objection. Calls for
21 speculation.

22 THE COURT: Overruled. Let her answer, if
23 she knows.

24 THE WITNESS: I believe the reason that
25 they wanted to start with overpaid was because if

259

1 there was an overpaid amount in one of the funds,
2 they could transfer it to the contractor where they
3 were underpaid on a specific contract. So if it was
4 all within the same contractor, they could offset
5 some of the -- because, if you recall the payment
6 spreadsheet, there's -- the first one, I believe,
7 was City of Avenal or something, and there was maybe
8 four contracts for that City of Avenal, and some
9 were overstated and some were understated. So if
10 you could move from overpaid amount to another one,
11 you'd still be collecting money in reducing water
12 payments which would be a benefit to power.
13 BY MS. BAE:

14 **Q Okay. And I know you testified yesterday**
15 **that you are not aware of the current status of the**
16 **reconciliation specifically, but are you aware of**
17 **whether the \$10.5 million discrepancy that was shown**
18 **has gotten smaller as the Bureau has proceeded with**
19 **reconciliation efforts?**

20 A Yes.

21 **Q Do you know whether or not power has gotten**
22 **credit toward its payment obligation as late**
23 **payments from contractors have come in?**

24 A Yes, they have.

25 **Q And do you know whether or not power has**

260

1 **gotten credit toward its payment obligation when**
2 **Reclamation has discovered that some money was in**
3 **the wrong fund and then transferred it into the**
4 **restoration fund?**

5 A Yes, they did.

6 **Q Now, Ms. Trujillo-Bixby, do you recall**
7 **testifying yesterday that under Reclamation's**
8 **current methodology for power payments that power**
9 **could theoretically be responsible for paying up to**
10 **the full inflated \$30 million?**

11 A Yes.

12 **Q Has a situation ever happened where water**
13 **paid nothing and power ended up having to pay the**
14 **full amount?**

15 A No.

16 **Q I'd like to turn to the suspense account**
17 **now.**

18 **You testified yesterday about Reclamation's**
19 **use of a suspense account when the money is**
20 **transferred into a suspense account when you're over**
21 **the ceiling for a particular fiscal year, and then**
22 **back into the restoration fund the following fiscal**
23 **year. Do you recall testifying about that?**

24 A Yes.

25 **Q And do you know how it affects power's**

261

1 **obligation in that next fiscal year when the money**
2 **is transferred from the suspense account back into**
3 **the restoration fund?**

4 A It reduces the power payment obligation for
5 that fiscal year.

6 **Q And you stated yesterday that you thought**
7 **that Reclamation's transfer of funds into the**
8 **suspense account and then back is a valid accounting**
9 **practice.**

10 **Do you recall testifying that?**

11 A Yes.

12 **Q And why do you believe that?**

13 A It's identified in our report and
14 accounting -- reporting and accounting table that
15 it's a valid transaction for us to do that standard
16 voucher as identified on our table of valid
17 transactions.

18 **Q And you testified yesterday that**
19 **Reclamation does its restoration fund on a**
20 **cash-based accounting system, right?**

21 A Yes.

22 **Q And how is Reclamation's use of the**
23 **suspense account consistent with a cash-based**
24 **accounting system?**

25 A Because you're debiting and crediting cash

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1 when you do this voucher that I'm talking about. So
2 you credit cash in the restoration fund, and you
3 debit cash in the suspense fund, so that moves it
4 from the restoration fund to the suspense fund. And
5 then when you do the opposite the following month or
6 so, the following fiscal year, you debit cash in the
7 restoration fund and you credit cash in the suspense
8 fund, so that's essentially moving the money back to
9 the restoration fund.

10 **Q Does the Bureau index the overpayment -- or**
11 **does the Bureau index the amount that goes into the**
12 **suspense fund up to account translation between the**
13 **fiscal years when it goes back into the restoration**
14 **fund?**

15 A No.

16 **Q And why not?**

17 A Because we don't account for money that
18 way. It's money that was received in a particular
19 fiscal year. It was inflated to the amount that it
20 was supposed to be for a particular period of time.
21 And just like we're reducing the water payment and
22 moving them into the suspense fund, we don't
23 increase or decrease those, we don't increase or
24 decrease power's payments either.

25 **Q Do you know how long Reclamation generally**

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1 keeps the money in the suspense account before
2 transferring it back over to the restoration fund
3 the next fiscal year?

4 A It's usually transferred back in November.

5 Q Would that be the beginning of the next
6 fiscal year?

7 A Of the next fiscal year.

8 Q Ms. Trujillo-Bixby, do you recall
9 testifying yesterday that the Denver office did not
10 allow you to use the suspense account for the amount
11 that was over the ceiling in fiscal year 2016
12 because it was worried about an audit?

13 A Yes.

14 Q Do you know whether Reclamation's practice
15 of using suspense accounts has been audited before?

16 A It has.

17 Q Do you know whether it was audited
18 internally or by an external independent auditor?

19 A It was audited both internally for our OMB
20 circular A-123 audit, and it was also audited
21 externally by our KPMG auditors. And in both cases
22 it passed. We were not written up, and there was no
23 finding identified in this practice being done.

24 Q And in fiscal year 2016 when you couldn't
25 use the suspense account, did you adjust power's

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1 obligation for the next fiscal year?

2 A I'm sorry. Could you repeat that again?

3 Q Sure.

4 In fiscal year 2016 when you couldn't use
5 the suspense account like you normally do, did
6 power's obligation get adjusted for the next fiscal
7 year in some other way?

8 A Yes, we reduced their obligation when we
9 did the true-up letter in January.

10 Q And do you know whether it's possible that
11 Reclamation will go back to the use of the suspense
12 account or whether Denver has said that this is not
13 how it's going to be moving forward?

14 A We are going to look at that again and try
15 and get that passed with our Denver office again.
16 It's a possibility that this year we would be in the
17 same situation that we were in in fiscal year '16
18 because we have a very low ceiling, so it's a
19 possibility that we would exceed the ceiling. So
20 we're going to start discussions with Denver this
21 year so that we can do that because it had a
22 negative impact to our program based on the
23 three-year rolling average.

24 Q And when you say "do that," do you mean use
25 the suspense account again?

265

1 A Yes.

2 Q I think you testified yesterday that for
3 fiscal year 2010 there was an amount put into a
4 suspense fund at the end of the year, and I believe
5 yesterday you testified that power did not get a
6 credit that following fiscal year for the amount
7 that had been put into the suspense fund. Do you
8 recall that?

9 A For 2010 they did not get a credit?

10 Q I mean, do you recall testifying to that
11 effect yesterday?

12 A No.

13 Q Okay. I'd like to turn to PX 110. If you
14 could just blow up the chart.

15 Ms. Trujillo-Bixby, do you recognize this
16 document?

17 A Yes.

18 Q And what is it?

19 A This is the transfer in fiscal year 2011
20 bringing the money back from the suspense account
21 into the restoration fund.

22 Q And is it showing that the money had been
23 moved into the suspense account at the end of fiscal
24 year 2010?

25 A Well, this is the one that's done in the

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1 following fiscal year to bring it back from the
2 suspense fund into the restoration fund, so the only
3 way we could bring it back is if it had been moved
4 into the suspense fund.

5 Q So does it mean that if, as this document
6 shows, the money was put back into the restoration
7 fund in 2011, that power would have gotten a credit
8 towards its 2011 obligation?

9 A Correct.

10 Q I'd like to pull up Joint Exhibit 42.

11 Ms. Trujillo-Bixby, do you recognize this
12 document that you discussed yesterday with
13 Mr. Murray?

14 A Yes.

15 Q And do you recall testifying yesterday
16 about the fact that for fiscal year 2017 you sent
17 this updated obligation letter stating that power's
18 updated obligation was 25 million?

19 A Yes.

20 Q And we'll just blow up that last paragraph.

21 And it says right here at the end of that
22 paragraph that the updated obligation is 25 million,
23 correct?

24 A Right.

25 Q And then can we bring up Joint Exhibit 43?

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1 And if we can just blow up the body of that.

2 And then do you recall testifying yesterday
3 that for the mid-year adjustment letter for this
4 year you had referenced power's obligation as being
5 35 million?

6 A Yes.

7 Q Why did you reference power's obligation as
8 being 35 million in this mid-year adjustment letter
9 if you had earlier updated the obligation as being
10 only 25 million?

11 A It was just overlooking the previous
12 letter, and when we went through our mid-year
13 adjustment process it looked like everything would
14 remain the same, the obligation would not be
15 increased. But when I pull up all my backup folder
16 and I pull out my files, the '16 true-up letter was
17 in the '16 files so I didn't have that readily
18 available to look at when I pulled out my backup
19 documentation. So I didn't even discuss it in this
20 letter, and nobody -- nobody along the way caught it
21 that we should be referencing the January -- January
22 letter.

23 Q And do you know if that ended up having an
24 effect on power's overall obligation for that year?

25 A Power still paid in accordance with the

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1 January letter, the 25 million.

2 Q Okay. Do you recall testifying yesterday
3 that when there is a shortfall for a particular
4 year, power is responsible for paying that shortfall
5 the next fiscal year?

6 A Yes.

7 Q Do you know if Reclamation is able to
8 simply forgive power's payments if there's a
9 shortfall in a given year, meaning that power would
10 never have to pay that back?

11 MR. MURRAY: Objection. Calls for a legal
12 conclusion.

13 THE COURT: Overruled. I'll take her
14 answer.

15 THE WITNESS: No, we don't forgive it in
16 the sense that it's never due. It's rolled into the
17 three-year rolling average, and it affects the
18 second year out in the rolling average, and that
19 figure will be adjusted to show an increase or a
20 decrease in our ceiling for that fiscal year.

21 BY MS. BAE:

22 Q So power is responsible for the shortfall
23 the next fiscal year?

24 A Yes.

25 Q And do you recall Mr. Murray asking you

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1 yesterday and you testifying about how after the
2 mid-year adjustment letter Reclamation does not
3 generally send out another revised estimate of
4 power's obligation, but instead waits until the end
5 of the year for the true-up process?

6 A Right.

7 Q Do you know why Reclamation doesn't do
8 anything like sending out another letter, say, over
9 the summer, giving power another update so that the
10 estimation might be even more accurate than it was
11 at the mid-year adjustment?

12 A Western has always said that we get -- when
13 talking with us that they adjust their bills twice a
14 year, the initial letter and the mid-year adjust.
15 That they don't adjust their bills any other time.
16 That's in accordance with our agreement.

17 Q Are you aware of why Western only wants to
18 adjust their bills twice a year or is it just
19 because of the agreement?

20 A I believe it's because of the agreement and
21 that their process that they have identified in
22 their federal register notice.

23 Q Do you know if there's any authority in the
24 CVPIA or otherwise that prevents Reclamation from
25 rescinding a mid-year adjustment?

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1 A No, there's nothing that prevents that.

2 Q Is the Bureau required to do a mid-year
3 adjustment in the first place, that is CVPIA?

4 A No.

5 Q I'd like to turn to Plaintiffs' Exhibit
6 204.

7 Do you recall testifying about this audit
8 report conducted by the Department of Interior
9 Inspector General yesterday?

10 A Yes.

11 Q And you stated that you're familiar with
12 the contents of this report?

13 A Yes. Well, I read it over once years ago
14 when I first came to the agency.

15 Q And can we turn to page five, please.

16 Do you recall what the overall -- or do you
17 know what the overall finding of the audit was as
18 far as Reclamation's assessments, collections, and
19 expenditures pertaining to the restoration fund?

20 A No. I'd have to read the report again and
21 familiarize myself with this information.

22 Q Would it help to refresh your recollection
23 if you were to read the first few lines under
24 "Results of Audit"?

25 MR. MURRAY: Your Honor, objection. She's

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1 not refreshing recollection. She testified she
2 doesn't know.

3 THE COURT: Overruled. I think it's
4 proper.

5 THE WITNESS: So do you want me to read
6 that first paragraph?

7 BY MS. BAE:

8 **Q Yeah. Do you need it blown up a little bit**
9 **more?**

10 A No, it's okay.

11 **Q Yeah, just the first paragraph under**
12 **"Results of Audit."**

13 A It states here that the Bureau of
14 Reclamation was in compliance with the requirements
15 of the CVPIA as it pertained to the restoration fund
16 for assessments, collections, and expenditures.

17 **Q Thank you, Ms. Trujillo-Bixby.**
18 **I'd like to turn to Plaintiffs'**
19 **Exhibit 184.**

20 THE COURT: For future reference, if you're
21 going to refresh her recollection, after she reads
22 it, you should take it off the screen.

23 MS. BAE: I apologize, Your Honor.

24 THE COURT: We'll do it that way.

25 MS. BAE: Thank you, Your Honor.

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1 BY MS. BAE:

2 **Q Could we blow up the text of this e-mail.**
3 **Do you recall discussing this e-mail**
4 **yesterday in your testimony?**

5 A Yes.

6 **Q And this e-mail has to do with the \$23,000**
7 **in M&I fees for Westlands?**

8 A Yes.

9 **Q And I think you testified yesterday that**
10 **you don't think that it has been moved into the**
11 **restoration fund, right? Is that how you recall**
12 **testifying?**

13 A That's correct.

14 **Q Do you know once the money gets put into**
15 **the restoration fund if that will affect power's**
16 **payment obligation?**

17 A It will reduce power's payment obligation
18 by \$23,000 if it got moved into the
19 mitigation-restoration fund.

20 **Q Do you recall discussing with Mr. Murray**
21 **yesterday approximately \$784,000 amount that rate**
22 **setting had mistakenly moved from the restoration**
23 **fund to a water advance account?**

24 A Yes.

25 **Q Do you know where that \$784,000 is now?**

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1 A It's in the restoration fund.

2 **Q Do you recall testifying yesterday that OMB**
3 **recommended against the use of a GDP deflator as an**
4 **index factor?**

5 MR. MURRAY: Objection. That misstates the
6 testimony. She did not testify to that yesterday.

7 THE COURT: Well, let's just have her
8 answer the question again.

9 THE WITNESS: Yes, OMB recommended that we
10 use the CPIU rather than the GDP inflation factor.

11 BY MS. BAE:

12 **Q And do you recall why OMB recommended**
13 **against the use of the GDP deflator?**

14 MR. MURRAY: Objection. Hearsay.

15 THE COURT: Overruled. I'll take her
16 answer.

17 THE WITNESS: The information that we
18 received from our program and budget office in D.C.
19 said that OMB felt that the CPIU was a more stable
20 index factor than the GDP inflation factor. They
21 also stated that OMB had done some analysis
22 regarding the two and recommended the use of the
23 CPIU.

24 BY MS. BAE:

25 **Q To your knowledge, do you know which**

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1 **inflation factor is used in the President's yearly**
2 **budget?**

3 A The CPIU.

4 **Q Yesterday I think you testified that even**
5 **if Reclamation were to use the GDP deflator, the**
6 **Friant surcharge would not change because it's set**
7 **at a flat non-indexed \$7. Do you recall that**
8 **testimony?**

9 A Yes.

10 **Q Do you know whether the Friant surcharge is**
11 **counted toward the \$30 million ceiling for**
12 **mitigation and restoration payments?**

13 A No, it is not.

14 **Q If it isn't counted toward the \$30 million**
15 **ceiling for M&R payments, how, if at all, would**
16 **using the GDP deflator affect whether the Friant**
17 **surcharge would lower power's proportional**
18 **obligation?**

19 A Since the Friant surcharge is not part of
20 the 30 million, it wouldn't have an effect on
21 lowering the power payment obligation, and it's not
22 indexed so the GDP or CPIU would have no influence
23 for the \$7 either way.

24 MS. BAE: Your Honor, I'm done with the
25 cross portion of my exam, and I'll now switch to

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1 direct.

2 THE COURT: All right. Very well. Thank
3 you.

4 DIRECT EXAMINATION

5 BY MS. BAE:

6 **Q Ms. Trujillo-Bixby, you testified earlier**
7 **that you are the CVPIA accountant. Can you describe**
8 **your role in terms of the CVPIA as the accountant**
9 **versus the role that the rate-setting group plays?**

10 A As a CVPIA accountant, I track receipts and
11 expenditures. It's part of an internal control
12 process to have a separation of duties. So our
13 rate-setting department looks at and tracks the
14 water delivery and the acre-feet, and they insure
15 that the correct charge is associated with each
16 water type subtype identified in the system, and so
17 they manage the charge portion.

18 And just to go on with the separation of
19 duties, our accounts receivable team, they manage
20 the payments coming in. And so there's a separation
21 of duties, and I kind of track and report the
22 information so I could identify if I do see
23 something unusual with the payments that have been
24 posted to the system or if I see something unusual
25 with charges.

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1 **Q And I think you beat me to the punch. I**
2 **was going to ask you next about accounts receivable.**

3 **Does accounts receivable have any other**
4 **role other than what you just said as regards to the**
5 **CVPIA?**

6 A No.

7 **Q Can you just briefly explain the difference**
8 **of your understanding of a cash-based accounting**
9 **system versus an accrual-based accounting system?**

10 A A cash-based accounting system relies on
11 activity into the cash account. And our cash
12 account is identified as the 1010 general ledger
13 account in our chart of accounts, so anything that
14 hits the 1010 general ledger account that affects
15 the restoration fund shows up in our cash reports.

16 An accrual-basis accounting would be
17 identifying revenues, and that's a different general
18 ledger account, that's our 5900 account, and that
19 would be identified when revenue is recognized as
20 opposed to when you're looking at the 1010 accounts.

21 **Q And do you know why Reclamation uses a**
22 **cash-based accounting system instead of an**
23 **accrual-based accounting system for the restoration**
24 **fund?**

25 A My understanding is that since this was

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1 determined back by our program and budget office at
2 the time when the CVPIA was passed because we had to
3 have collections that would reflect -- or
4 appropriations that would reflect our collections,
5 so it was determined at that time that we had to
6 have cash on hand in order to use it for the
7 program, so we've always followed cash-basis
8 accounting system for this fund.

9 **Q And you testified yesterday that the Bureau**
10 **collects mitigation and restoration charges from**
11 **water after the amount of water that was already**
12 **taken is determined. Do you recall that?**

13 A Yes.

14 **Q And why does the Bureau only collect M&R**
15 **charges from water based on the amount actually**
16 **taken rather than paying it down?**

17 A The law says that you take the \$6 for water
18 sold and delivered for irrigation water or \$12 for
19 water sold and delivered for municipal and
20 industrial purposes. So we've always considered
21 that, that you have to -- it has to be delivered
22 water first before we can charge for it.

23 **Q Do you know whether the CVPIA provides for**
24 **a methodology that requires Reclamation to project**
25 **water delivery estimates in a certain way?**

278

1 A No.

2 **Q No, you don't know, or, no, it does not?**

3 A No, it does not.

4 **Q And you testified yesterday that**
5 **Reclamation has changed its methodology for**
6 **estimating water deliveries over the years. Do you**
7 **remember that?**

8 A Yes, we have.

9 **Q Do you know whether or not Reclamation has**
10 **shared the fact that it changed its methodology with**
11 **power customers?**

12 A Yes, we have.

13 **Q And how has it done so?**

14 A We've attended their power customer
15 meetings and talked about how we've come up with our
16 power payment obligation for the year. We also
17 worked in conjunction with Western any time we do
18 change our methodology, and they agree to how we
19 were projecting our water deliveries.

20 **Q Does Reclamation directly handle billing**
21 **and payment with power customers for the restoration**
22 **fund?**

23 A No.

24 **Q Is that done through Western?**

25 A Yes.

279

1 **Q Are you aware of whether Western assesses**
2 **late fees to power customers for late payments?**

3 A Yes, I believe they do.

4 **Q Are you aware of whether power customers**
5 **have ever asked Western whether late penalties can**
6 **be waived?**

7 A Yes.

8 **Q And do you know if Western has the**
9 **discretion to waive late fees for power, or is that**
10 **a decision that has to be made by Reclamation?**

11 A There's some penalties that it's my
12 understanding that Western can just waive when they
13 see the information, but sometimes I know they do
14 come to Reclamation to ask for Reclamation to waive
15 the late fees.

16 **Q And do you know whether Western has ever**
17 **waived late fees for power payments?**

18 A I believe they have.

19 **Q Do you know whether Reclamation has ever**
20 **agreed to waive late fees for power payments?**

21 A The only time I've seen it was the e-mail
22 that I saw here during testimony.

23 **Q Oh, do you know what e-mail you're**
24 **referring to?**

25 A The one from Mr. Happs to Western, and then

280

1 Western forwarded that e-mail to us.

2 **Q Can we bring up Plaintiffs' Exhibit 220.**
3 **If you could blow it up. Is this the e-mail that**
4 **you're referring to?**

5 A Yes.

6 **Q And are you aware as to whether Reclamation**
7 **waived late fees in this circumstance?**

8 A Under this particular circumstance, they
9 did. And this is Jennifer Strother, our account
10 services manager at the time, replied back to
11 Western that these could be cancelled.

12 **Q And I'd like to pull up DX 18.**

13 **Do you recognize this document?**

14 A Yes.

15 **Q And what is this document?**

16 A This is one of the standard vouchers that I
17 would have done to move the money from the suspense
18 account to the restoration fund in the year
19 following the movement to the expense account, so
20 it's talking about fiscal years 2007 and 2008.

21 **Q Are these of the same type of voucher as**
22 **the ones you discussed yesterday with plaintiffs'**
23 **counsel?**

24 A Yes.

25 **Q I'd like to move to Defendant's Exhibit 13.**

281

1 **If you could just blow up the top table.**

2 **Are you familiar with this document?**

3 A Yes.

4 **Q And could you just explain what that**
5 **document is.**

6 A This is our ten-year rolling average
7 calculation for the CVP restoration fund.

8 **Q If we could take a particular year, let's**
9 **say 2016 since it's the last one on the list.**

10 A Okay.

11 **Q You see that for power it says**
12 **48.772 percent?**

13 A Yes.

14 **Q And can you explain how the ten-year**
15 **rolling average gets to 48.772 percent for 2016?**

16 A So you would take all of the power
17 payments, the amounts, the dollar amounts that are
18 in the receipts column, and you would total up -- so
19 you would total up the receipts from fiscal year
20 2007 all the way to 2016, which would be a ten-year
21 period of time, and get your total amount of power
22 receipts. And you look at the total receipts column
23 for the same period of time, total all those up, and
24 take the power receipts divided by the total
25 receipts to come up with the 48.772 percent.

282

1 **Q When we're looking just at the receipts, so**
2 **ignoring the percentages for now, if you see, say,**
3 **for 2016 again, for irrigation, it lists the**
4 **receipts as 12,688,521. Do you see that?**

5 A Yes.

6 **Q So does that represent the receipts just**
7 **for 2016, or does it represent an average amount of**
8 **receipts for the past ten years?**

9 A No, those are total receipts for that
10 fiscal year.

11 **Q For irrigation?**

12 A For irrigation.

13 **Q And then the 6,907,972 number is the**
14 **receipts just for 2016 for M&I water?**

15 A Correct.

16 **Q And then the same for power, the 40,954,898**
17 **number?**

18 A Yes.

19 **Q So then does the 60,551,392 number on the**
20 **very right, does that represent the total amount of**
21 **receipts received into the fund with M&R charges**
22 **just for 2016?**

23 A These wouldn't just be just M&R charges.
24 These would be all the funds, yes. So this is the
25 total of all the receipts into the restoration fund.

283

1 **Q In 2016?**

2 A In 2016, yes.

3 **Q So if you were to determine what percentage**
4 **of the restoration fund power actually paid into for**
5 **a particular year, how would you go about doing that**
6 **using this chart?**

7 A If you were just looking at fiscal year
8 2016, you would just look at the 40.9 million that
9 power paid in and divide it by the 60.5 million of
10 total receipts for that fiscal year.

11 MS. BAE: And, Your Honor, permission to
12 approach the witness with a calculator?

13 THE COURT: Sure.

14 BY MS. BAE:

15 **Q Now, Ms. Trujillo-Bixby, I've given you a**
16 **calculator, and there is an easel here with some**
17 **paper and a marker, and I may ask you to do some**
18 **math calculations for us. Hopefully, you're**
19 **comfortable with that since you're an accountant.**

20 A Okay. As long as I have my calculator, I'm
21 good.

22 **Q Okay. So using this table, if you were to**
23 **calculate the percentage that power paid into the**
24 **restoration fund, say, for 2010, could you**
25 **demonstrate, using your calculator and the easel,**

284

1 **how you would get to that number?**

2 A Do you want me to do it on the easel first
3 or on the calculator or --

4 **Q Whichever works for you.**

5 A Okay. So it would be -- you would take the
6 power receipts for the year was --

7 **Q Hopefully, one of those works.**

8 A Whoopsie. Oh, there we go. 10681 --

9 **Q If it's easier to use the paper copy and**
10 **take it out, you can do that.**

11 A So this is how you would do the
12 calculation. You would take the power receipts,
13 divide it by the total receipts, and you would get
14 the calculation for the percentage that power paid
15 in for that fiscal year.

16 **Q Are we looking at 2010 right now?**

17 A I'm sorry. I put the wrong amount down for
18 the receipts. So what number is this? It's
19 probably easier if I take the paper sheet.

20 **Q I agree. It's Defendant's Exhibit Number**
21 **13. It should be in that small red binder.**

22 A In the small one.

23 **Q I understand it's hard to go back and**
24 **forth.**

25 A This number should really be 479 -- so it

285

1 would be the 10.6 million divided by the
2 47.9 million.

3 **Q And could you just run that calculation on**
4 **the calculator and write down the percentage?**

5 A This would be 22 percent. And it didn't
6 calculate any further. It's set to calculate just
7 to two decimals.

8 **Q Is there any way to make the calculator set**
9 **to calculate to decimal points? If not, don't worry**
10 **about it.**

11 A I'm not sure exactly which one would be the
12 correct one to -- let me see. We can do it with a
13 floating decimal. Okay. So there we go. 22.267 --
14 8, rounding it.

15 **Q All right. You can go sit back down for**
16 **now.**

17 A Okay.

18 **Q So, Ms. Trujillo-Bixby, according to your**
19 **calculation, is this 22.268 number the percentage**
20 **that power paid into the restoration fund for that**
21 **year, for 2010?**

22 A Correct.

23 **Q I'd like to pull up DDX 1. This is a**
24 **demonstrative the government is offering.**

25 **Now, Ms. Trujillo-Bixby, if you look at the**

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1 **chart, if you see at the bottom, it says that the**
2 **orange line is the approximate proportional average**
3 **percentage that power would owe according to its**
4 **repayment allocation per plaintiffs' amended**
5 **complaint. And then the line represents the actual**
6 **percentage that power had paid into the restoration**
7 **fund over the years.**

8 **If you look at 2010, which unfortunately is**
9 **not marked, but it's the one between 2009 and 2011,**
10 **it says power paid 22.268 for that year.**

11 **Does that reflect your understanding as the**
12 **calculation you just did?**

13 A Yes.

14 **Q And I won't ask you to get up and do it**
15 **again up there, but let's just try it for a**
16 **different year.**

17 **For 2007, using the chart, could you**
18 **calculate power's percentage payment into the**
19 **restoration fund?**

20 A Sure. So power paid in 5366834 divided by
21 total receipts of 40082078, and that would be 13.38
22 -- 13.390, if you round it to three decimal places
23 again.

24 **Q Can we bring up the demonstrative again.**

25 **And does that comport with what's reflected**

287

1 on this chart for 2007?

2 A Yes.

3 **Q You testified earlier this morning that**
4 **Reclamation has been conducting mid-year adjustments**
5 **pursuant to an agreement letter with Western. Do**
6 **you recall that?**

7 A Yes.

8 **Q I'd like to pull up Joint Exhibit 8. And**
9 **if we could just blow up the text a little bit.**

10 **Do you recognize this document?**

11 A Yes.

12 **Q I know it was written before you got there,**
13 **but you have read it before?**

14 A Yes.

15 **Q And what is this document?**

16 A This is a letter where we were responding
17 to NCPA's concerns and Western's concerns about only
18 having an initial power payment obligation, and this
19 is where we recognized that we really should do some
20 kind of mid-year adjust because it's difficult for
21 them, it's difficult for us in our estimating, and
22 so we agreed that we would do a mid-year adjust
23 letter.

24 **Q So does this document then comport with**
25 **your understanding of the reasons that the Bureau**

288

1 **has started using a mid-year adjustment process?**

2 A Yes.

3 **Q And how does the mid-year adjustment, in**
4 **general, help power customers?**

5 A Well, they get to -- if we're going to
6 increase the power payment obligation at the
7 mid-year point, they get five months to pay that
8 amount rather than waiting until the end of the
9 fiscal year to say here's the true-up amount and you
10 owe -- most likely, it would be a greater amount
11 that would be in the true-up figure if we waited
12 until that point to let them know of their power
13 payment obligation where they get a longer period of
14 time to pay their obligation.

15 **Q And do you know whether power has ever**
16 **expressed that they prefer using the mid-year**
17 **adjustment than not?**

18 A Yes. I have talked with members of NCPA,
19 and they have said that they would prefer to know as
20 soon as possible what any adjustment to their power
21 obligation is rather than wait until the mid-year.

22 **Q And in certain situations, have you been**
23 **able to provide them an estimation before the normal**
24 **mid-year adjustment in response to their request?**

25 A We did that for the letter that they wanted

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1 us to update in January of 2014, so we did it in
2 that situation. We have adjusted our mid-year,
3 also, one fiscal year for our months' projection.

4 **Q I'd like to pull up Joint Exhibit 27. If**
5 **we could just blow up the body of the letter.**
6 **Actually, can we just blow up the whole body of the**
7 **letter.**

8 **Ms. Trujillo-Bixby, do you recognize this**
9 **letter?**

10 A Yes.

11 **Q And what is it?**

12 A This is a letter that we did to our
13 mid-year adjustment where we had attended a power
14 customer meeting and they pointed out to us a
15 discrepancy in our formula, so we immediately
16 reissued our letter and decreased their power
17 payment obligation by \$972,622.

18 **Q If you look in the middle paragraph of this**
19 **letter, it says: "After discussions at the power**
20 **customer meeting, the process was analyzed and one**
21 **more month of estimated water deliveries was added**
22 **to projected water deliveries." And it says: "It**
23 **was the correct projected deliveries to reflect a**
24 **12-month period."**

25 **How -- were you not using a 12-month period**

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1 **for that fiscal year prior to discovery of this**
2 **mistake?**

3 A That's correct. We had used a 11-month
4 period of time for the mid-year adjust letter rather
5 than a 12-month period of time.

6 **Q And how would that affect the projection?**

7 A It would have underestimated our water
8 deliveries and expected receipts from water
9 customers by one month, and it would have inflated
10 the amount that power would have to pay.

11 **Q And was it just an error that you used**
12 **11 months instead of 12 months?**

13 A Yes, it was an error that I discovered when
14 I went back and looked at my spreadsheet and I
15 had -- in my Excel formula that I used for a
16 particular cell, when I did my auto sum, I
17 highlighted five months instead of six months.

18 **Q Ms. Trujillo-Bixby, do you recall giving a**
19 **deposition or taking -- getting your deposition**
20 **taken in this case?**

21 A Yes, ma'am.

22 **Q And do you recall during the deposition**
23 **Mr. Murray asking you about this error based on an**
24 **11-month projection?**

25 MR. MURRAY: Your Honor, I'm going to

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1 object. This is not a prior inconsistent statement
2 in her deposition testimony.

3 THE COURT: What's the purpose of offering
4 the deposition?

5 MS. BAE: Your Honor, plaintiff did not
6 address it on their direct, but there was a mistake
7 in what Ms. Trujillo-Bixby stated during her
8 deposition regarding this point, and I just wanted
9 to afford her an opportunity to clarify the error.

10 THE COURT: All right. Go ahead.

11 THE WITNESS: Could you restate your
12 question again? I'm sorry.

13 BY MS. BAE:

14 **Q Sure.**

15 **Do you recall being asked in your**
16 **deposition about this error regarding the 11-month**
17 **projection of water rather than the 12-month?**

18 A Yes.

19 **Q And do you recall testifying that you had**
20 **used the 11-month number for the projections for all**
21 **years prior to 2013?**

22 A Yes. I mistakenly thought that since it
23 was the same spreadsheet being used every year, you
24 know, you copy over the previous spreadsheet, update
25 it with current information, and you would get the

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1 updated power payment obligation for the mid-year
2 adjust. So since the one fiscal year '13 was
3 incorrect, I assumed that all the previous fiscal
4 years had been incorrect. So I did say during my
5 deposition that, yes, all the previous fiscal years
6 were incorrect, but when I went back to check all of
7 the spreadsheets, this was only an error in fiscal
8 year '11, '12 and '13.

9 THE COURT: Can you give us a page
10 reference in the deposition?

11 MS. BAE: Yes, Your Honor, let me try and
12 find that.

13 I apologize, Your Honor, I thought I had
14 written it down on this sheet, but I have not, but I
15 do have the deposition with me.

16 THE COURT: Maybe you can have the witness
17 look at the deposition, and then she can identify
18 where this mistake occurred.

19 MS. BAE: Sure. Could we pull up
20 Ms. Trujillo-Bixby's deposition transcript.

21 MR. MURRAY: If it's of assistance to
22 counsel, I believe it's page 164 or thereabouts.

23 MS. BAE: Yes, you're right. Thank you
24 Mr. Murray. I apologize, I had it in my outline, I
25 must have inadvertently deleted it.

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1 So could we pull up page 164 of the
2 deposition.

3 I apologize for this, Your Honor. I
4 apologize, Your Honor. It seems that our trial
5 director for the deposition transcript isn't
6 working, and I believe our extra copies of the
7 deposition are upstairs. Would you like me to read
8 the portion into the record or -- I don't know how
9 you would like me to address this, Your Honor. I
10 apologize.

11 MR. RALSTON: Your Honor, I'll offer it is
12 Plaintiffs' Exhibit 45, which the government has
13 objected, but the exhibit is available there if it's
14 of an assistance to the Court -- Plaintiffs'
15 Exhibit 13.

16 MS. BAE: And then could you blow up the
17 lower right quadrant.

18 THE COURT: All I really would like to have
19 is the witness's affirmation of where in the
20 deposition this error occurred.

21 BY MS. BAE:

22 **Q Ms. Trujillo-Bixby, does this reflect the**
23 **discussion in your deposition regarding the 11-month**
24 **water projection?**

25 A Yes.

294

1 **Q And then could we turn to page 165 of the**
2 **deposition. And is this the continuation of where**
3 **you testified about the 11-month projection?**

4 A Yes.

5 **Q And do these two pages reflect the error**
6 **that you just clarified right now?**

7 A Yes.

8 **Q Thank you, Ms. Trujillo-Bixby.**

9 **Can we pull up Joint Exhibit 27 again. And**
10 **then blow up the body again.**

11 **Now, it states in this middle paragraph**
12 **that: "This process does not affect previous years,**
13 **as power received credit for prior years at the time**
14 **the restoration allocation was exceeded."**

15 **What did you mean by that statement?**

16 A So it looked like previous fiscal years,
17 the ceiling was exceeded so they would have received
18 a credit from the previous fiscal year that would
19 have moved forward to the next fiscal year, and it
20 would have reduced their obligation for '12 -- '11
21 going into '12 and '12 going into '13.

22 **Q Does that mean that power would have**
23 **received a credit if their obligation had been**
24 **changed as a result of the error?**

25 A If we had -- wait. I'm not following you.

295

1 I don't want to say something that --

2 **Q You just stated that it didn't affect power**
3 **because they received credits for prior fiscal**
4 **years, correct?**

5 A Right. The credits would have rolled into
6 the next fiscal year and reduced their power
7 obligation for that new fiscal year.

8 **Q I'd like to move next to Plaintiffs'**
9 **Exhibit 360.**

10 **Ms. Trujillo-Bixby, do you recognize this**
11 **document?**

12 A Yes.

13 **Q What is it?**

14 A This looks like this is a process that we
15 do to forecast the power payment obligation in
16 future -- five-year future period of time at the
17 request of power.

18 **Q So why do you issue this five-year forecast**
19 **for power's obligation?**

20 A The request came to us from power through
21 Western that, for budgeting purposes, power
22 customers would like to have a forecast five years
23 out of their possible power payment obligation. So
24 we do this estimation, and we do use a standard
25 deviation for our acre-feet that has been paid for

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1 in the restoration fund to determine a low water
2 delivery amount and a high water delivery amount so
3 that we can estimate here's the range that the power
4 payment could be in this future fiscal year.

5 **Q Is this forecast binding on power or on**
6 **Reclamation?**

7 A No.

8 **Q Could we please bring up Defendant's**
9 **Exhibit 2.**

10 **Ms. Trujillo-Bixby, do you recognize this**
11 **document?**

12 A Yes.

13 **Q And what is it?**

14 A This is a document, an e-mail that Autumn
15 asked for the supporting documentation to show that
16 items identified during the historical
17 reconciliation, items that were put into power
18 payments or water contractor payments that were put
19 into the water fund instead of the restoration fund,
20 she was asking for the back-up documentation to show
21 where these items had been correctly moved to the
22 restoration fund.

23 **Q And can we move to the third page, please.**
24 **And it might be easier to scroll through the paper**
25 **version which is in that small binder as well.**

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1 A This is Number 2, you said?

2 **Q Yes. You can just take a look through the**
3 **entirety of that e-mail, of that document?**

4 A Okay.

5 **Q Ms. Trujillo-Bixby, do you know if you sent**
6 **or received these e-mails and documents?**

7 A Yes, I did. I sent pages three and four to
8 be included as documentation that the receipts
9 actually ended up being in the Friant surcharge
10 account and into the restoration fund account for --
11 this is the contractor Lower Tule River Irrigation
12 District.

13 **Q And as far as the e-mails go, did you**
14 **either send or receive that series of e-mails?**

15 A Yes.

16 **Q Do you know whether the e-mails and**
17 **documents were made at or near the time of the**
18 **events or acts discussed?**

19 A Yes, this is the cost posting that show in
20 October. These items were posted into our FBMS
21 financial system. It shows the document numbers,
22 and then the document numbers are referenced on
23 these other items that show where the money came
24 from in the water account.

25 **Q And were these documents and e-mails made**

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1 **and kept in the course of regularly conducted**
2 **business?**

3 A Yes.

4 **Q I'd like to move for admission of**
5 **Defendant's Exhibit 2.**

6 MR. MURRAY: Just a moment, Your Honor.

7 Your Honor, the concern is whether the
8 subsequent documentation in the last few pages was
9 prepared by Ms. Trujillo-Bixby or not. The e-mail
10 at the front end, we don't dispute that those are
11 her e-mails, but whether she had a role and can
12 testify to lay a foundation for these reports at the
13 end are the concern.

14 BY MS. BAE:

15 **Q I believe Ms. Trujillo-Bixby already**
16 **testified that she pulled some of these documents**
17 **herself.**

18 **And the other documents that you did not**
19 **pull, did you -- are you aware of whether you**
20 **received them, and do you know where they were**
21 **pulled from?**

22 A Yes, I received copies of these in the
23 e-mail string, and these were all pulled out of our
24 FBMS system.

25 MS. BAE: Your Honor, I would like to move

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1 the admission of these.

2 MR. MURRAY: And just one further point,
3 Your Honor. On page five of this exhibit there's
4 sort of a summary chart, and I'm not clear who
5 prepared that and whether this witness prepared it
6 or someone else did.

7 BY MS. BAE:

8 **Q Ms. Trujillo-Bixby, do you see page five on**
9 **the chart that Mr. Murray is referencing?**

10 A Yes.

11 **Q And did you see or receive this document at**
12 **or near the time that the e-mails were sent?**

13 A Yes.

14 **Q And do you know where it's been pulled**
15 **from?**

16 A It's been pulled from our FBMS system.

17 MS. BAE: Your Honor, I would like to renew
18 my request to admit this exhibit.

19 THE COURT: Any objection at this point?

20 MR. MURRAY: Just would like clarification
21 that the summary chart is not part of the FBMS
22 system so someone prepared that, and it's not clear
23 what the genesis of that is. In terms of that
24 coming in as substantive evidence, Your Honor,
25 that's the concern. It appears to be a hearsay

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1 chart sort of prepared as a summary, and I don't
2 think this witness has explained where that comes
3 from.

4 THE COURT: I'll overrule the objection.
5 Defendant's Exhibit 2 is admitted.

6 (Defendant's Exhibit 2 admitted
7 into Evidence.)

8 BY MS. BAE:

9 **Q Ms. Trujillo-Bixby, I believe you've**
10 **explained a little bit as you were testifying about**
11 **this document what the various e-mails and charts**
12 **show, but could you explain briefly what these**
13 **charts show -- sorry, excuse me -- in their totality**
14 **regarding Lower Tule payments?**

15 A It's showing documents where the money was
16 sitting in the water account. It's showing where it
17 got posted into the restoration fund, and it was
18 showing the ending balance that was left in the
19 water account after the transfer of the money.

20 **Q So do the documents show that money was**
21 **transferred from the Lower Tule water account to the**
22 **restoration fund?**

23 A Yes.

24 **Q I'd like to move to Defendant's Exhibit 9.**

25 Ms. Trujillo-Bixby, I believe there are

301

1 **four pages to this exhibit. Do you recognize these**
2 **documents? And you can take your time to look**
3 **through them?**

4 A Yes.

5 **Q And what are these documents?**

6 A These are similar documents as the Lower
7 Tule documents, only these are for Rosedale-Bravo
8 Water Service District, and this is showing where
9 payments were sitting in the water account. They
10 were moved to the restoration fund and the Friant
11 surcharge fund, and then it shows a balance left in
12 the water account, and these were reports and
13 documents pulled from our FBMS system.

14 **Q Did you pull these reports and documents?**

15 A Yes, I did. I pulled the reports.

16 **Q Are there documents in here that you did**
17 **not pull?**

18 A The document itself from the -- showing
19 what was in the water account was pulled by our
20 accounts receivable team to back up the e-mails that
21 we moved that money.

22 **Q And did you receive these documents from**
23 **the accounts receivable team?**

24 A Yes, I did.

25 **Q Ms. Trujillo-Bixby, were these documents**

302

1 **made and kept in the course of regularly conducted**
2 **business?**

3 A Yes.

4 MS. BAE: I'd like to move for admission of
5 Defendant's Exhibit 9.

6 MR. MURRAY: No objection.

7 THE COURT: Defendant's Exhibit 9 is
8 admitted.

9 (Defendant's Exhibit No. 9 was
10 admitted into Evidence.)

11 BY MS. BAE:

12 **Q And, Ms. Trujillo-Bixby, you testified**
13 **about these documents, that they show the funds**
14 **being moved from the water advance account to the**
15 **restoration fund.**

16 **Do you know if this had anything to do with**
17 **the Reclamation's reconciliation effort?**

18 A Yes, it was directly related to those
19 historical reconciliations that were done, and it
20 was identified during those historical
21 reconciliations that payments by water contractors
22 had been put into the water fund.

23 **Q And, Ms. Trujillo-Bixby, I'd like to move**
24 **to the CPIU and GDP deflator issue again. Could you**
25 **please turn to Plaintiffs' Exhibit 203.**

303

1 **Looking at the first page, have you read**
2 **this document before?**

3 A I read it over after it was presented to me
4 at the deposition.

5 **Q But at this point you have read through the**
6 **document?**

7 A Yes.

8 **Q And what is this document?**

9 A It's an OMB circular that talks about
10 guidelines and discount rates to be used for
11 cost-benefit analysis of federal programs.

12 **Q And what is a cost-benefit analysis of the**
13 **federal program, in general terms?**

14 A My understanding of cost-benefit analysis
15 is something that you will do to determine if it's
16 better to lease something or purchase something.
17 Like, say, you're going to purchase a big item of
18 equipment, you'll do a cost-benefit analysis to
19 determine whether it would be more appropriate to
20 lease the item or to purchase the item, what would
21 be the best benefit for the federal government.

22 **Q And, Ms. Trujillo-Bixby, are you aware of**
23 **whether this document recommends use of the GDP**
24 **deflator as a general inflation assumption?**

25 A Yes, it does.

304

1 **Q And are you aware of whether Reclamation is**
2 **conducting a cost-benefit analysis when it's**
3 **inflating its restoration fund numbers?**

4 A No, it's not doing a cost-benefit analysis.
5 We're just merely inflating the numbers that have
6 been established in the CVPIA, and we're inflating
7 them from October 1992 price levels.

8 **Q Ms. Trujillo-Bixby, since you have read**
9 **this document, do you know whether this circular**
10 **contains any exceptions to the recommendation of the**
11 **GDP deflator as a general assumption?**

12 A Yes, it does, under -- I believe it was
13 page three or four where it had exceptions to the
14 use of this circular. It says do not use these for
15 water resource projects or federal energy programs.

16 **Q And could you please pull up page three.**
17 **Could you highlight the bottom of page three.**

18 **Is this where it reflects that a water**
19 **resource project is an exception to the**
20 **recommendation?**

21 A Yes.

22 **Q And could we go to page four. And could**
23 **you please highlight the top part.**

24 **Does it show anywhere here that the federal**
25 **energy program is also an exception to the**

305

1 **recommendation?**

2 A Yes, under number three.

3 **Q At the very top of the page?**

4 A At the very top of the page, yes.

5 **Q Thank you, Ms. Trujillo-Bixby.**

6 **Your Honor, I'm done with my examination.**

7 THE COURT: Okay. Is there any redirect?

8 MR. MURRAY: There will be, Your Honor. We
9 think it might be appropriate to take a short recess
10 to sort of prepare and for organization.

11 THE COURT: Okay. Let's take a 15-minute
12 break. We'll reconvene at 11 o'clock.

13 (Recess taken from 10:45 to 11:01).

14 THE CLERK: All rise. The court is again
15 in session.

16 THE COURT: Thank you. You may be seated.

17 All right. Mr. Murray, any redirect?

18 MR. MURRAY: Yes, Your Honor.

19 THE COURT: All right.

20 MR. MURRAY: And, Your Honor, consistent
21 with defense counsel doing the, I guess, cross first
22 before the redirect, I'm going to try to indicate
23 where I'm transitioning from questions based on the
24 cross to questions based on the direct examination.

25 THE COURT: Okay.

306

1 REDIRECT EXAMINATION

2 BY MR. MURRAY:

3 **Q So, Ms. Trujillo-Bixby, earlier this**
4 **morning you testified that interest and penalties on**
5 **overdue restoration fund amounts would not go into**
6 **the restoration fund; is that correct?**

7 A Yes.

8 **Q The revised interim guidelines that**
9 **Reclamation published in 1993, those are the**
10 **guidelines governing how restoration fund payments**
11 **are collected and applied, correct?**

12 A Yes.

13 **Q And there's not been an update or revision**
14 **of those guidelines since 1993, has there?**

15 A No.

16 **Q As far as you're aware, that's the**
17 **definitive Reclamation guidance of how payments into**
18 **the restoration fund should be collected and**
19 **applied?**

20 A Yes.

21 **Q If we could direct you to Joint Exhibit 5,**
22 **please.**

23 **And, Ms. Trujillo-Bixby, are you familiar**
24 **with the Summary of Comments that Reclamation has**
25 **prepared on the comments it received on the interim**

307

1 guidelines?

2 A Yes, I reviewed this document before.

3 Q And this document reflects Reclamation's
4 recounting of comments it received on the draft
5 interim guidelines and their responses as to how
6 they were responding to those comments in the
7 revised interim guidelines, correct?

8 A Yes.

9 Q If we go to page 17 of this document, "Part
10 B" of the interim guidelines is titled "Deposits to
11 the Restoration Fund." Is that right?

12 A Oh, yes.

13 Q And if we go to the next page, page 18, I
14 want to direct your attention to comment B-3 and the
15 response. And tell me when you've had a chance to
16 read that.

17 A I've read that.

18 Q All right. That indicates that Reclamation
19 was changing the interim guidelines to say that any
20 interest and penalties on late restoration fund
21 payments would be deposited into the restoration
22 fund, doesn't it?

23 A Correct.

24 Q And the basis was that the restoration fund
25 was the fund that was being hurt by the late

308

1 payments, and that's why the interest and penalties
2 should be credited to the restoration fund, correct?

3 A That's what it's saying.

4 Q Let's go to Joint Exhibit 6.

5 And, Ms. Trujillo-Bixby, you're familiar
6 with this document, correct?

7 A Yes.

8 Q This is actually the revised interim
9 guidelines that were issued in response to the
10 summary and comments that we saw in just Exhibit 4?

11 A Yes.

12 Q And if I can direct your attention to page
13 10 of this exhibit. Again, this is "Part B" that
14 refers to "Deposits to the Restoration Fund."
15 Correct?

16 A Yes.

17 Q And it actually indicates the subsection
18 that it is responding to is subsection 3407(a),
19 correct?

20 A Yes.

21 Q And I want to direct your attention to the
22 final paragraph there of this document. And tell me
23 when you've had a chance to read that. Or the final
24 paragraph of this page, I should say.

25 Have you had a chance to read that,

309

1 Ms. Trujillo-Bixby?

2 A Yes.

3 Q So the 1993 interim guidelines issued by
4 Reclamation stated that all interest and penalty
5 charges collected for delinquent payment of
6 restoration fund payments and charges would be
7 deposited in the restoration fund, correct?

8 A Yes. It also states they will not be
9 credited to water and power contractors.

10 Q In terms of the \$30 million ceiling,
11 correct?

12 A Correct.

13 Q But it would be part of the 50 million that
14 you would be trying to collect in a year?

15 MS. BAE: Objection. Calls for
16 speculation.

17 THE COURT: Overruled. I'll take an answer
18 to this.

19 THE WITNESS: I'm not sure when it's
20 talking about the restoration fund, since all of the
21 specific funds are delineated up above, if this
22 would go into the mitigation and restoration payment
23 fund or if it would go into one of the other funds
24 or if it would go -- I'm not sure where it would be
25 deposited.

310

1 BY MR. MURRAY:

2 Q But you do understand that there is a
3 ceiling on total restoration fund collections in a
4 year of \$50 million 1992 dollars?

5 A Correct.

6 Q There was some testimony earlier this
7 morning about the suspense account and the indexing
8 of the suspense account money.

9 If that amount that's moved into the
10 suspense account -- let's take fiscal year 2009.
11 There's an over-collection in 2009, you put it in
12 the suspense account, bring it back in fiscal year
13 2010, right?

14 A Yes.

15 Q An alternative approach would be to leave
16 it as a fiscal year 2009 collection, and so if you
17 didn't do a suspense account it would stay as a
18 fiscal year 2009 collection, correct?

19 A Correct.

20 Q And when you're calculating the ceilings,
21 you do deflate the fiscal year 2009 collections
22 using your fiscal year 2009 index factor, don't you?

23 A Yes.

24 Q Whereas, for 2010, when you're deflating it
25 to determine what your ceiling is in the upcoming

311

1 year, you're using the fiscal year 2010 index
2 factor?

3 A Yes.

4 Q And has there ever been a year that you've
5 been doing these calculations where the index factor
6 for the next year was lower than the index factor
7 for the prior year?

8 A No.

9 Q They have always been higher the following
10 year, haven't they?

11 A Yes.

12 Q Which means that dollar-for-dollar, a
13 fiscal year 2010 dollar gets deflated to a lower
14 1992 dollar value than a fiscal year 2009 dollar?

15 A Of fiscal year -- say that again.

16 Q If you look at your two index factors for
17 fiscal year 2010 and 2009, if the 2010 index factor
18 is higher than a 2010 dollar deflated to 1992 is
19 worth less than a 2009 dollar deflated to 1992?

20 A Yes.

21 Q Why did Denver veto the use of the suspense
22 account transfer for 2017?

23 MS. BAE: Objection. Asked and answered.

24 THE COURT: I think we've heard a lot about
25 this. Sustain the objection.

312

1 BY MR. MURRAY:

2 Q You mentioned that KPMG had approved the
3 use of the suspense account; is that your testimony?

4 A I mentioned that they have audited those
5 transactions before when they have looked at our
6 financial statements, and there was never a finding
7 written up that those transactions were not valid or
8 any of the back-up documentation presented to them
9 did not accurately reflect why we were doing the
10 transactions.

11 Q And was that for a particular year?

12 A They do audit samples for every fiscal
13 year, and I'm not sure which fiscal year these
14 particular documents were audited.

15 Q There's some testimony about power
16 receiving a credit in 2011 from amounts that were
17 transferred in suspense in 2010. Do you remember
18 that?

19 A Yes.

20 Q Do you remember testifying yesterday that
21 there was a certain amount that you did not transfer
22 to a suspense from 2010 that you weren't notified in
23 time to transfer?

24 A Yes.

25 Q And so that amount was not applied as a

313

1 fiscal year 2011 payment, was it?

2 A Correct.

3 Q That stayed in the fiscal year 2010
4 collection?

5 A Right.

6 Q And so that amount was not credited as a
7 power payment 2011?

8 A Yes.

9 Q Was not?

10 A Was not, yes.

11 Q Turn to Joint Exhibit 42, and this was the
12 end-of-year true-up letter for fiscal year 2016,
13 correct?

14 A Yes.

15 Q And so this was the recent occasion where
16 you had an over-collection from the prior year of
17 over 7 million, but did not use the suspense
18 account, correct?

19 A Correct.

20 Q So there was not \$7 million in cash that
21 was being brought in in fiscal year 2017 as a power
22 credit?

23 A Correct.

24 Q That money stayed as a fiscal year 2016
25 collection?

314

1 A Yes.

2 Q And you testified that you handled the not
3 transferring it in as a credit by telling Western to
4 deduct that from the power obligation in 2017,
5 correct?

6 A Yes.

7 Q Now, at the end of the year when you're
8 going to true up whatever receipts are received from
9 water versus your ceiling, it's going to depend on
10 how much you receive from water, isn't it, in terms
11 of what the power obligation is?

12 A For the true up?

13 Q Yes.

14 A Yes.

15 Q All right. And you didn't -- in this
16 process of this letter, you didn't adjust the
17 ceiling that you had previously set for 2017, did
18 you?

19 A The 2017 ceiling had already been
20 established by the time this true-up letter had gone
21 out, and we wouldn't adjust a ceiling that's already
22 been established in the President's budget.

23 Q So by telling Western to collect
24 7.7 million less from power in that year, if the
25 ceiling doesn't change at the end of the year, if

315

1 **\$7 million in water receipts don't materialize,**
 2 **power is still going to owe that money back, aren't**
 3 **they?**

4 MS. BAE: Objection. Argumentative. Calls
 5 for speculation.

6 THE COURT: Overruled.

7 THE WITNESS: Could you repeat your
 8 question?

9 BY MR. MURRAY:

10 **Q Yep.**

11 **If the ceiling stays the same with this**
 12 **over-collection issue and all you're doing is**
 13 **saying, Western, collect less from power right now,**
 14 **at the end of the year you're still using the same**
 15 **ceiling and measuring against the same water**
 16 **receipts for that year, aren't you?**

17 A This 7 million would not impact the ceiling
 18 in 2018 is what you're saying, right?

19 **Q I'm actually asking about 2017 right here.**

20 **So you had fiscal year 2016 over-collection**
 21 **as referenced in this letter, correct?**

22 A Right.

23 **Q And instead of using the suspense account**
 24 **transaction where you move it into a suspense**
 25 **account and bring it in as cash in the next year**

316

1 **that applies towards the ceiling, you're telling**
 2 **Western just to collect less right now from power,**
 3 **correct?**

4 A For '17, yes.

5 **Q Yes, for 2017.**

6 A Yes.

7 **Q And at the end of the year when you're**
 8 **determining your true up, the true up is going to be**
 9 **based as it always is on whatever your ceiling was**
 10 **and whatever your water receipts are, and the**
 11 **difference is going to be assessed to power,**
 12 **correct?**

13 A You take into consideration your ceiling,
 14 actual water receipts, actual power receipts and
 15 determine if those two combined met the ceiling or
 16 exceeded the ceiling, and then you would determine
 17 if there's power payment obligation that would move
 18 from '17 to be collected in '18.

19 **Q If Western reduced the power receipt by**
 20 **this amount, 7.742, and you didn't hit your ceiling**
 21 **by 7.742 when you're doing your true up at the end**
 22 **because the water receipts weren't enough, that**
 23 **7.742 million would be assessed again to power as a**
 24 **shortfall, wouldn't it?**

25 A It would depend how the receipts were for

317

1 the year. I can't just hypothetically say that
 2 power would -- it would affect the 18 numbers if I
 3 don't know -- it's all based on actual numbers, and
 4 this was a credit given for '17. It was actual
 5 receipts in '16. It was a credit given in '17. I
 6 would still have to look at actual receipts for the
 7 fiscal year to compare to the ceiling.

8 **Q I understand. I'm just trying to establish**
 9 **that this is essentially a paper credit at this**
 10 **point; there's no cash associated with this that's**
 11 **going into your M&R fund in 2017?**

12 A Yes.

13 **Q Okay. You also mentioned that it's your**
 14 **understanding that Western only adjusts their bills**
 15 **twice a year; is that correct?**

16 A Yes.

17 **Q And obviously, to state the obvious, you**
 18 **don't work at Western, do you?**

19 A No.

20 **Q And you don't handle or even review the**
 21 **bills they send out to their power customers, do**
 22 **you?**

23 A No, I don't.

24 **Q In this letter telling Western to apply**
 25 **this credit to the power obligation, this is not a**

318

1 **mid-year adjustment letter, is it?**

2 A No. This would be what you would consider
 3 our true-up letter.

4 **Q All right. And so the true-up letter in**
 5 **any year, whether it's a shortfall or a credit,**
 6 **that's another adjustment to the power obligation,**
 7 **isn't it?**

8 A Yes.

9 **Q Do you remember testifying this morning**
 10 **that OMB recommended that Reclamation use the CPIU?**

11 A Yes.

12 **Q You've never spoken with someone at OMB to**
 13 **get that recommendation yourself, have you?**

14 A No, it would not be in my daily business
 15 where I would talk to anybody at OMB. It would be
 16 somebody in our program and budget office that would
 17 have communications with OMB.

18 **Q But you, yourself, were the person that was**
 19 **asked to sort of do the analysis on the GDP deflator**
 20 **versus the CPIU in 2010-2011, correct?**

21 A For that report that we were working on,
 22 yes.

23 **Q And that was the report to look into that**
 24 **at Western's request as to whether one index would**
 25 **be better than the other?**

319

1 A Yes.
2 **Q And in that analysis or investigation you**
3 **did not contact anyone at OMB to find out what their**
4 **viewpoint was?**

5 A No.
6 MS. BAE: Objection. Asked and answered.
7 THE COURT: Sustained.
8 MR. MURRAY: Your Honor, at this point, I'm
9 transitioning to the direct-examination so this, I
10 guess, would be cross.

11 CROSS-EXAMINATION

12 BY MR. MURRAY:

13 **Q Ms. Trujillo-Bixby, you mentioned earlier**
14 **that Reclamation only collects M&R payments from**
15 **water contractors after the fact because of a**
16 **provision in the CVPIA; is that correct?**

17 A Yes.
18 **Q Isn't it true that you do collect payments**
19 **from water contractors in advance when they are able**
20 **to pay in advance for M&R payments?**

21 A A number of water contractors do pay in
22 advance. They are required to pay in advance for
23 their water for -- for the water they think they're
24 going to take they pay in advance, and a lot of
25 customers do pay in advance for their power -- or

320

1 their restoration payments at the same time they pay
2 for their power.

3 **Q Are you -- we've looked earlier --**

4 A I'm sorry, I said for their power. Yeah,
5 at the same time that they pay for their regular
6 water delivery, they will pay for their restoration.

7 **Q We looked earlier at the summary of**
8 **comments on the original draft interim guidelines, I**
9 **believe it was Joint Exhibit 5.**

10 **And do you know whether Reclamation's**
11 **initial interim guidelines provided for water**
12 **customers to pay their restoration fund payments in**
13 **advance on the same schedule they pay their water**
14 **payment?**

15 A Not that I'm aware of.

16 **Q Pull up Plaintiff's 220.**

17 **Ms. Trujillo-Bixby, you looked at the**
18 **exhibit earlier and said this was evidence that**
19 **Reclamation has waived a late fee for a power**
20 **customer?**

21 A Yes.

22 MS. BAE: Objection. Mischaracterizes her
23 testimony.

24 THE COURT: Overruled. I'll let her
25 answer.

321

1 THE WITNESS: I was stating that we --
2 Mrs. Strother said the request for waiver was to go
3 ahead -- to approve it, to waive the late fees for
4 SMUD.

5 BY MR. MURRAY:

6 **Q And the letter or the e-mail further down**
7 **indicates that SMUD was requesting this because the**
8 **invoice had actually gotten lost in the mail. Isn't**
9 **that what the explanation was?**

10 **Let's go --**

11 A I don't see that on here.

12 **Q -- to the next page.**

13 A Yes, the invoice was received late, it says
14 here.

15 **Q So this wasn't a circumstance where SMUD**
16 **had just waited months and months to pay a**
17 **restoration fund charge?**

18 MS. BAE: Objection. Argumentative. Calls
19 for speculation.

20 THE COURT: Sustained.

21 BY MR. MURRAY:

22 **Q And you're not aware, are you, whether**
23 **Western has actually assessed late fees for power**
24 **customers for being a day or two late on a**
25 **restoration fund payment?**

322

1 A I believe they do assess it when they're
2 late. I don't know exactly when they assess it,
3 but --

4 **Q You send out a letter every year notifying**
5 **water contractors of what the inflated CVPIA charges**
6 **are for the upcoming fiscal year, correct?**

7 A Correct.

8 MS. BAE: Objection. Outside the scope of
9 my examination.

10 MR. MURRAY: Your Honor, I'm addressing a
11 late fee issue.

12 THE COURT: Go ahead.

13 BY MR. MURRAY:

14 **Q That letter tells water contractors that if**
15 **they are late on these payments, they will be**
16 **assessed late fees in accordance with the debt**
17 **collection act, correct?**

18 A Correct.

19 **Q And to your knowledge, those late fees have**
20 **not been assessed against water contractors for late**
21 **restoration fund payments, have they?**

22 A I'm not aware of any.

23 **Q If we can pull up -- let's go to Joint**
24 **Exhibit 2. I believe this is the same exhibit you**
25 **were looking at earlier as a defense exhibit, but**

323

1 does this -- this is the ten-year rolling average
2 assessment of collections and repayment allocation,
3 correct?

4 A Yes.

5 Q And so at the bottom of the page, what you
6 weren't looking at this morning was the repayment
7 allocations for power versus the water functions,
8 correct?

9 A Yes.

10 Q And that's done on a ten-year rolling
11 average?

12 A Yes.

13 Q And that's what the restoration fund says
14 in terms of how the repayment allocation should be
15 measured for proportionality if they're on the
16 ten-year rolling average basis?

17 A Yes.

18 Q And you were asked actually to get up and
19 do some calculations for a couple of individual
20 years.

21 For fiscal year 2008 to 2016, do you see
22 any year in which the ten-year rolling average was
23 less of the collections for power than their
24 repayment allocation?

25 MS. BAE: Objection. Confusing. Vague and

324

1 ambiguous.

2 THE COURT: I'll let you answer if you can
3 understand the question.

4 THE WITNESS: Could you repeat your
5 question?

6 BY MR. MURRAY:

7 Q There's no year from 2008 to 2016 in which
8 the collections from power were equal to or less
9 than their repayment allocation, is there?

10 A No.

11 Q Let's go to Joint Exhibit 8.

12 This was the amendment to the letter of
13 agreement between Western and the Bureau of
14 Reclamation about how Western would collect power
15 restoration fund charges, correct?

16 A Yes, this had to do with the mid-year
17 adjust agreement.

18 Q And this is -- the first version of the
19 letter agreement did not have a mid-year adjustment
20 procedure, correct?

21 A Correct.

22 Q And so this was a later modification of
23 that that instituted a mid-year adjustment process?

24 A Yes.

25 Q And this letter itself you mentioned was an

325

1 agreement with Western and NCPA, correct?

2 A It responded to concerns from NCPA and
3 Western.

4 Q But NCPA is not a signatory to this letter,
5 is it? You can go to the next page and confirm
6 that.

7 A No. This it is a letter from Western, from
8 our regional director at Bureau of Reclamation to
9 Western. NCPA did receive a copy of the letter.
10 Let's see.

11 Q Defense Exhibit 2, please. And, actually,
12 let's go to 3 or 4 -- let's actually start on the
13 first page with the chart. Let's blow it up a bit.

14 This was a documentation reflecting the
15 movement of funds that had been mistakenly deposited
16 by Reclamation into Lower Tule River Irrigation
17 District's water account instead of the restoration
18 fund, correct?

19 A Yes.

20 Q And do you know, do these documents
21 indicate anywhere on them where those payments --
22 when those payments were originally received by
23 Reclamation?

24 A It does show a post date, I believe.

25 Q The posting date here is -- on this

326

1 particular page is June 19, 2017. Is it your
2 testimony that that's when the money was first
3 received by Reclamation?

4 A That's when this \$1.2 million was received
5 from Lower Tule and posted into our system, yes.

6 Q And that's a point that I think is worth
7 clarifying.

8 So there was discussion about this money
9 was deposited in the wrong -- in their water account
10 and not the M&R fund, correct?

11 A Correct.

12 Q And so that money didn't just sit there in
13 the water account and was sitting there as something
14 you could move right away when you discovered it,
15 was it?

16 A In relation to the historical
17 reconciliation, my understanding is these payments
18 were received under our old FFS system and not
19 received in FBMS.

20 Q So that would have meant they were received
21 at least prior to October 1, 2013, correct?

22 A 20 -- yes.

23 Q And so what this indicates on this page is
24 that Lower Tule River had to pay a \$1.2 million,
25 roughly, payment in June of 2017 to provide the

327

1 funds that were going to be transferred. Is that
2 what this is here to indicate?

3 A This is indicating that Lower Tule made a
4 payment of \$1.2 million. It went into their water
5 fund, and that is the money that we had to use to
6 transfer to the restoration and the Friant because
7 we couldn't go back and do anything in FFS. We no
8 longer had that system. So you had to look at
9 current dollars that came in in order to transfer it
10 to the restoration fund and the Friant surcharge
11 fund.

12 Q If we can go to the next page.

13 So this is the document that indicates the
14 transfer of some of that money to the Friant fund?

15 A Yes.

16 Q Let's actually go to the next page because
17 that's the one I'm more interested in.

18 And this one is -- there's an indication
19 "Rest IRR." That's restoration irrigation, that's
20 the M&R fund?

21 A Yes.

22 Q So this is indicating that the payment that
23 should have been in the M&R fund previously is now
24 being transferred into the M&R fund in the amount of
25 \$224,174.10, correct?

329

1 why it took four months to transfer into the M&R
2 fund?

3 A No.

4 Q Let's look at Defense Exhibit 9, please.

5 And these are the equivalent documents for,
6 I believe you said, Rosedale-Bravo Water Service
7 District?

8 A Yes.

9 Q And so this was another contractor that had
10 an M&R payment from sometime back that was deposited
11 into the water account and not the M&R fund?

12 A Yes.

13 Q And so, again, the posting date on this,
14 can you tell on here when this payment was received?

15 A This was done on May 25, 2016; it was
16 reversing a previous document.

17 Q So this one indicates -- and this is --
18 provided this page to indicate this is where the
19 money that was ultimately transferred into the M&R
20 fund, where it came from, correct?

21 A Yes. This original amount was reversed,
22 and it was placed into the restoration and Friant
23 irrigation fund.

24 Q Okay. And let's go to page three of this
25 document, and blow that up, if we can.

328

1 A Correct.

2 Q And if we look at the posting date, the
3 transfer was made on October 23rd, 2017?

4 A Correct.

5 Q So that money was not in the M&R fund until
6 October 23rd, 2017?

7 A Yes.

8 Q And that's fiscal year 2018?

9 A Yes.

10 Q Why did it take -- if you received a
11 payment in June 2017, why did it take four months to
12 transfer that into the M&R fund?

13 MS. BAE: Objection. Calls for
14 speculation.

15 THE COURT: Overruled.

16 THE WITNESS: I knew we had a hard time
17 finding a document that would be large enough with
18 current receipts to cover what had to be transferred
19 to the restoration fund, so I don't know if that
20 played a factor in why this took longer or what the
21 -- what the situation was because I don't -- I don't
22 do that transaction so --

23 BY MR. MURRAY:

24 Q Just to put a finer point on that, you, as
25 you sit here now, do not know the explanation for

330

1 So this is the document that reflects that
2 the payment that was misapplied originally has
3 finally made its way home to the M&R fund?

4 MS. BAE: Objection. Argumentative.

5 THE COURT: Overruled. I'll take it.

6 THE WITNESS: Yes.

7 BY MR. MURRAY:

8 Q And can you see there it was not posted to
9 the M&R fund until October 17, 2017?

10 A Yes.

11 Q As you sit here now, are you able to
12 explain why it took a year-and-a-half for the money
13 from May 2016 to be posted into the M&R fund?

14 A No.

15 Q We spoke a little bit about an OMB circular
16 earlier this morning, Ms. Trujillo-Bixby. You're
17 not aware of an OMB circular that says -- recommends
18 the use of the CPIU as an inflation index, are you?

19 A No, I have not looked for an OMB circular
20 to that effect.

21 MR. MURRAY: If I could just have a moment,
22 Your Honor.

23 That concludes my examination, Your Honor.

24 THE COURT: All right.

25 MS. BAE: Your Honor, may I just have a

331

1 moment to consult with counsel?

2 THE COURT: Sure.

3 MS. BAE: Your Honor, just a couple very
4 quick questions.

5 REDIRECT EXAMINATION

6 BY MS. BAE:

7 **Q Ms. Trujillo-Bixby, you testified just now**
8 **that for Lower Tule and Rosedale-Bravo it took a**
9 **matter of some months for the payment to be moved**
10 **over to the restoration fund. Do you recall**
11 **testifying to that?**

12 A Yes.

13 **Q But when the money did get moved over,**
14 **would that mean that power would get a credit for**
15 **that payment?**

16 A Yes.

17 MS. BAE: That's all I have, Your Honor.

18 THE COURT: All right. Ms. Trujillo-Bixby,
19 thank you very much for your testimony. You may
20 step down.

21 THE WITNESS: Thank you.

22 MR. RALSTON: Your Honor, our next witness
23 is Dr. David Mooney.

24 THE COURT: All right.

25 MR. RALSTON: Your Honor, may I approach?

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1 THE COURT: Sure.

2 Please come forward, sir.

3 DAVID MOONEY,
4 called as a witness on behalf of the Plaintiffs
5 herein, was duly sworn, examined, and testified as
6 follows:

7 THE COURT: Please be seated.

8 DIRECT EXAMINATION

9 BY MR. RALSTON:

10 **Q Dr. Mooney, good morning. David Ralston**
11 **representing the plaintiffs.**

12 **Dr. Mooney, please identify yourself for**
13 **the record.**

14 A My name is David Michael Mooney.

15 **Q And where do you reside?**

16 A I reside in Sacramento, California.

17 **Q And you're employed by the United States**
18 **Government?**

19 A Yes, I am.

20 **Q Bureau of Reclamation?**

21 A Yes.

22 **Q Department of the Interior?**

23 A Yes.

24 **Q You've been with the Bureau since 2004?**

25 A Yes.

333

1 **Q And you remain employed by the Bureau**
2 **today?**

3 A Yes.

4 MR. RALSTON: Your Honor, I think by
5 stipulation, but I'll ask in declaration that
6 Dr. Mooney is a witness of the adverse party for
7 purposes of proceeding under Rule 611.

8 MR. OLIVER: I agree, Your Honor.

9 THE COURT: Okay.

10 CROSS-EXAMINATION

11 BY MR. RALSTON:

12 **Q Dr. Mooney, you started with the Bureau in**
13 **Denver, Colorado?**

14 A Yes, I did.

15 **Q At the Technical Service Center?**

16 A Yes.

17 **Q As a hydraulic engineer?**

18 A Yes.

19 **Q Your specific expertise was setup and**
20 **transport?**

21 A And river mechanics.

22 **Q And river mechanics?**

23 **That work entailed numerical monitoring?**

24 A Numerical modeling and also monitoring.

25 **Q And you used computers to estimate how**

334

1 **rivers and water supply will change in response to**
2 **different activities, correct?**

3 A Correct.

4 **Q It involved a lot of math applications,**
5 **didn't it?**

6 A Yes, it did.

7 **Q As part of that work did you study**
8 **droughts?**

9 A Not specifically droughts.

10 **Q As part of your hydrology work did you**
11 **study droughts?**

12 A Yes, I did.

13 **Q You came to Sacramento in 2007, correct?**

14 A Correct.

15 **Q As a hydraulic engineer with the**
16 **Mid-Pacific Region's planning division?**

17 A That's correct.

18 **Q In 2013 you became the administrator of the**
19 **CVPIA restoration fund, correct?**

20 A That's correct.

21 **Q What month in 2013?**

22 A I'm not entirely certain. I believe it was
23 January, February.

24 **Q And you held that position until 2015?**

25 A Yes.

335

1 **Q When you became the branch chief of the**
2 **NP-410 program management branch?**

3 A That's correct.

4 **Q We'll return to your work first as the**
5 **restoration fund administrator.**

6 **What did your duties include as part of**
7 **that position?**

8 A The duties were administrating the
9 restoration fund, which included preparing the
10 budget justifications, planning out work,
11 implementing and obligating funds for the various
12 programs and activities, and reporting upon
13 accomplishments.

14 **Q And then what did your work entail as the**
15 **branch chief?**

16 A As the branch chief, I had the same
17 responsibilities before as well as supervising a
18 number of direct reports that implemented some of
19 the specific programs under the CVPIA, as well as
20 some of the environmental compliance for water
21 transfers as well as our water conservation program.

22 **Q And what program specifically did you**
23 **supervise in that position?**

24 A I supervised Reclamation staff for the
25 anadromous fish restoration program and for the

337

1 **Deputy Manager?**

2 A I'm now the Area Manager.

3 **Q Of the Bay-Delta office?**

4 A Yes.

5 **Q And what work is entailed as part of that**
6 **position?**

7 A We assist Reclamation with the legal and
8 regulatory compliance activities for the Central
9 Valley Project, and we implement a number of the
10 Fish and Wildlife activities. We also administer
11 the CALFed Bay-Delta fund and some of the water
12 quality work.

13 **Q You previously were the deputy manager of**
14 **that office?**

15 A Yes.

16 **Q And you became deputy manager on June 13th,**
17 **2016?**

18 A I know it was June so --

19 **Q Shortly before you were deposed in this**
20 **case, correct?**

21 A Correct.

22 **Q You hold a bachelor's degree, a master's**
23 **and a doctorate in civil engineering, correct?**

24 A Yes.

25 **Q From Colorado State University at Boulder?**

336

1 refuge water supply and in-stream flow programs.

2 **Q Those are all CVPIA programs?**

3 A Yes, they are.

4 **Q And you were the program manager,**
5 **essentially, for those programs?**

6 A I was the supervisor of the program manager
7 for those programs.

8 **Q And your duties as branch chief, did they**
9 **include, again, dealing with program budgets?**

10 A Yes, they did.

11 **Q It was a carryover of the work you had done**
12 **as restoration fund administrator?**

13 A Carryover and accretion.

14 **Q And as part of your responsibilities as**
15 **restoration fund administrator and then later as the**
16 **branch chief, did you work with Gail Trujillo-Bixby?**

17 A Yes, I did.

18 **Q Did you work with Autumn Wolfe?**

19 A Yes, I did.

20 **Q Did you work with David Murillo?**

21 A Primarily through my supervisor Rick
22 Woodley, but yes.

23 **Q And you worked with Anne Elkus?**

24 A I don't recall working with Anne Elkus.

25 **Q You now serve as the Bay-Delta office**

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1 A Colorado State University, Fort Collins.

2 **Q You obtained your doctorate in 2007?**

3 A Correct.

4 **Q And you obtained your doctorate while you**
5 **were working with Reclamation?**

6 A That's correct.

7 **Q And you're a licensed professional**
8 **engineer?**

9 A Yes, I am.

10 **Q We're going to put before you Plaintiffs'**
11 **Exhibit 1, 48 and 49. You can take a moment and**
12 **review that document that's slash 48 and 49?**

13 A Okay.

14 **Q To orient you I'm going to first post the**
15 **first page of that document. I'm sorry, the first**
16 **page -- there you are.**

17 **And these are the interrogatory responses,**
18 **as you see, correct?**

19 A This is titled such.

20 **Q Let's return to page 48.**

21 **And this document indicates that you were**
22 **responsible with respect or worked with the**
23 **responses to numbers 2, 3, 5, and on the next page**
24 **6.**

25 **Do you see those?**

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1 A I do.
 2 **Q Returning to the prior page, did you assist**
 3 **with respect to the responses -- we're going to go**
 4 **through them in a minute -- to these**
 5 **interrogatories?**
 6 A Yes, I did.
 7 **Q Did you work with Gail Trujillo-Bixby with**
 8 **respect to answering these interrogatories?**
 9 A Yes, I did.
 10 **Q And specifically on number 3, correct?**
 11 A Don't recall which specific number 3 was,
 12 but yes.
 13 **Q We'll go to that in a moment.**
 14 **And with Autumn Wolfe with respect to**
 15 **number 3?**
 16 A That's what this document indicates.
 17 **Q And with respect to Gail Trujillo-Bixby on**
 18 **number 5, correct?**
 19 A That's what this document indicates.
 20 **Q Did you work with Mr. Murillo's staff with**
 21 **respect to responding to these?**
 22 A I don't believe in -- well, I'm part of
 23 Mr. Murillo's staff so -- with the exception of
 24 Koji, this is all Mr. Murillo's staff.
 25 **Q Let's go to Plaintiffs' Exhibit 1/44.**

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1 **Can you take a minute and review that**
 2 **question and then, if necessary, we'll scan through**
 3 **the answer which is over the next few pages.**
 4 A Okay.
 5 **Q And you were the sole person responsible**
 6 **for responding to this question, correct?**
 7 A I believe I was the primary person.
 8 **Q We'll next go to Exhibit 1, number 47,**
 9 **which gives you the number 3. And you assisted in**
 10 **the response to this as well, correct?**
 11 A Yes, I did.
 12 **Q We'll go to number 49. And that indicates**
 13 **that you worked on interrogatory number 6 with**
 14 **Mr. Kawamura, correct?**
 15 A I do not recall any dialogue with
 16 Mr. Kawamura.
 17 **Q You do not?**
 18 A I do not. So I may have answered a portion
 19 of it, and Koji may have answered another portion,
 20 but we did not coordinate a response.
 21 **Q Mr. Kawamura is an attorney with Western?**
 22 A To my understanding, he is.
 23 **Q Did you work with any Western personnel in**
 24 **the defense of the case?**
 25 A I don't recall coordinating directly with

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1 Western.
 2 **Q Let's go to page 47. Sorry, page 48.**
 3 **And was there anyone who assisted you with**
 4 **respect to these answers besides the persons**
 5 **indicated in the interrogatory there?**
 6 A Our solicitor's office.
 7 **Q Let's go to Plaintiffs' Exhibit 1, page 51.**
 8 **This is the response to number 6, which you just**
 9 **indicated you assisted in response for.**
 10 **Did you provide the information with**
 11 **respect to the answers to number 6?**
 12 A I believe I identified these three
 13 individuals.
 14 **Q And the next page, please.**
 15 **And those as well?**
 16 A Yes.
 17 **Q And the next page.**
 18 **And those as well?**
 19 A Yes.
 20 **Q So you were responsible for identifying, in**
 21 **response to this interrogatory request, those with**
 22 **information at the Bureau who had information**
 23 **concerning this case, correct?**
 24 A Correct.
 25 **Q Let's go to Plaintiffs' Exhibit 10 at 5.**

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1 **This is the amended notice of 30(b)(6) deposition.**
 2 **We'll go to page 5.**
 3 **And there you see are listed the topics**
 4 **concerning the deposition. Take a moment and review**
 5 **that, if you would.**
 6 A Okay.
 7 **Q And now we'll go to Plaintiffs' Exhibit 11.**
 8 **And, as you can see, this is an e-mail in which**
 9 **responsive individuals were designated by topic, and**
 10 **I think you'll see your name next to a number of the**
 11 **responses.**
 12 **You had 1 and 2, correct?**
 13 A Correct.
 14 **Q And 4A, and 9, and 13, and 17, 18, 23 to**
 15 **25. Let's return to -- among others, let's return**
 16 **to Plaintiffs' Exhibit 10 at 5.**
 17 **And so you had 1 and 2. Do you see those**
 18 **before you?**
 19 A Yes, I do.
 20 **Q So you were designated as a person who is**
 21 **knowledgeable about the interpretation of section**
 22 **3407 as communicated outside of Reclamation,**
 23 **correct?**
 24 A Correct.
 25 **Q And you were also designated as a person**

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1 with knowledge about section 3407(c)(1) of the CVPIA
2 concerning the term "direct beneficiaries," correct?

3 A Correct.

4 Q And if you look at 4A, you were designated
5 as a person with knowledge on that topic as well?

6 A For 4A, correct.

7 Q Let's go to Plaintiffs' Exhibit 10 at 8.

8 And item 13 concerns how proportionality was to be
9 implemented, correct?

10 A Correct.

11 Q And you were designated as a person with
12 knowledge on that topic.

13 We'll go to 17. You were designated as a
14 person with knowledge as to the steps taken to
15 implement proportionality to the greatest degree
16 practicable, correct?

17 A Correct.

18 Q And number 18 as to the steps taken or not
19 taken?

20 A Correct.

21 Q Let's now go to Plaintiffs' Exhibit 1/44
22 again, take a moment to review that and your answer.

23 A Okay. Is there additional pages?

24 Q There are. There's two more pages. And
25 it's also -- I should have noted this for you. It's

344

1 in your briefing book right in front of you in hard
2 copy, if it's easier for you to review.

3 A Thank you.

4 MR. OLIVER: Mr. Ralston, do you have a
5 copy of what you provided the witness for counsel?

6 MR. RALSTON: We do. Sorry for not having
7 distributed it.

8 THE WITNESS: Okay.

9 BY MR. RALSTON:

10 Q Return to page 44, and that interrogatory
11 asked to identify in detail every step you contend
12 you took, meaning the defendant, to ensure the
13 amount of mitigation and restoration payment made by
14 the CVP water users and CVP power users was to the
15 greatest degree practicable assessed in the same
16 proportion as the repayment allocations, correct?

17 A Correct.

18 Q Please review your answer and, having done
19 so, were there any steps identified in your answer
20 as having been taken?

21 A Which page in the binder?

22 Q It is at Plaintiffs' Exhibit 1, page 44,
23 45, and I believe 46.

24 A I don't think I have a number 1.

25 Q Then we'll have to scroll through the

345

1 document here.

2 A Okay. One of the steps is on page 45, the
3 -- what we refer to as a non-discretionary charges.

4 Q Identify the specific paragraph.

5 A The third paragraph.

6 Q And which specific provision are you
7 identifying?

8 A Where it identifies the Friant surcharge;
9 contract pre-renewal charge; number 4, the water
10 transfer charge; number 5, the tiered water charge;
11 number 6, the municipal and industrial surcharge.

12 Q And how does that represent a step?

13 A When we assess those charges, it increases
14 the revenues from water and brings power's payment
15 closer to proportional.

16 Q Any other step?

17 A Look at the next page, please.

18 We have charged water users the maximum
19 amount.

20 Q Any other step?

21 A Can you go to the prior page, please?
22 Prior page, please.

23 MR. MURRAY: Your Honor, if it's of some
24 assistance to the witness, I believe there's a Joint
25 Exhibit tab and then a Plaintiffs' Exhibit tab. I

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1 believe this exhibit is in our copy in the binder.

2 THE WITNESS: Those are the steps that have
3 been identified in this response.

4 BY MR. RALSTON:

5 Q Those two, okay.

6 So the first instance -- we'll go back to
7 page 45 -- it was imposing the charges that the
8 statute requires, correct?

9 A Correct.

10 Q And the second was to set the rates at 6
11 and \$12 for irrigation and M&I water, correct?

12 A Correct.

13 Q Now, back on page 44, you indicate in the
14 first part of your answer that, in fact,
15 accomplishing proportionality had been impossible,
16 correct?

17 A Straight proportionality has been
18 impossible.

19 Q Let's go to Joint Exhibit 2 which is in
20 your binder, should be in your binder. It's a
21 chart. Let's use the last line under 2016 where it
22 indicates for commercial power the ten-year rolling
23 average is 48.772.

24 Do you see where I'm referring to?

25 A Yes, I do.

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1 Q And that is the ten-year rolling average
2 with respect to commercial power's payment of the
3 restoration charge, M&R payments, correct?
4 A Correct.
5 Q And at the bottom where it has capital
6 costs, you'll see under "Commercial Power" for 2015,
7 to the right the percentage 26.006.
8 Do you see where I'm referring to?
9 A Yes, I do.
10 Q And that's what's the ten-year average of
11 the commercial power's repayment allocation for the
12 CVP, correct?
13 A I'm not an expert in these numbers.
14 Q I'm not saying you are.
15 A That's what this table says.
16 Q So their M&R payments for that ten-year
17 period were 48.7 percent compared to their repayment
18 allocation of 26.06.
19 That isn't even close to being proportional
20 much less strictly proportionality, is it?
21 A That is not strictly proportionality.
22 Q Of any kind. What kind of proportionality
23 is it, if any?
24 MR. OLIVER: Objection. Argumentative.
25 THE COURT: Overruled.

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1 THE WITNESS: It is not proportional.
2 BY MR. RALSTON:
3 Q Go to Plaintiffs' Exhibit 1 at 50. This
4 document indicates that documents will be responded
5 to identified in an appendix.
6 And if we go back to Plaintiffs'
7 Exhibit 1/48, you are the person in part identified
8 as being the person responsible for responding.
9 Let's go to Plaintiffs' Exhibit 3. This is
10 an appendix with many pages. I'll just ask quickly
11 -- we'll scroll through. You have it in front of
12 you.
13 And my question will be: Is this an
14 appendix of the documents that were responded to
15 with respect to that interrogatory; is that the
16 appendix?
17 MS. BAE: The witness might have -- that
18 doesn't correspond to the index to the appendix. I
19 don't know if I have the wrong binder or --
20 MR. RALSTON: Should be PTX 3.
21 THE WITNESS: Tab 3 is the Central Valley
22 Project Improvement Act Statute or a portion --
23 BY MR. RALSTON:
24 Q Well, look at the screen in front of you
25 which has PTX 3. It has "Appendix"? Is that what

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1 it shows in front of you?
2 A It shows appendix.
3 Q All right. Let's go to the next page.
4 There's an index to the appendix?
5 A It says "Index to Appendix."
6 Q Were these the documents that were
7 responded to that were connected with the
8 interrogatory I just directed your attention to?
9 A I'm not sure. I believe I just provided
10 different documents when we were going through the
11 different elements of the claim.
12 Q All right. Look through -- we'll scroll
13 through this document in front of you.
14 Do you see -- take 2008 as an example, and
15 then we'll go back to the index. Next page. Next
16 page. All right. Let go back to the index.
17 Do you see any documents there that respond
18 to the interrogatory number 2 concerning the steps
19 taken with respect to proportionality to the
20 greatest degree practicable?
21 A I'm not sure of the specific context of
22 each document, but I would expect they show us
23 assessing the different fees.
24 Q And that would be it?
25 A Yes.

350

1 Q Let's go to Plaintiffs' Exhibit 421 which
2 is towards the back of your book. These were
3 documents that --
4 A I don't have a 421.
5 Q You'll have the screen in front of you.
6 Let's go to the first page -- page 44. These were
7 documents that were brought by you to your
8 deposition and we had marked as an exhibit.
9 We'll go back to the first page so you can
10 see the marking. At page 44 is a chart. Do you
11 recognize the chart?
12 A I do recognize the chart.
13 Q You prepared that chart?
14 MR. OLIVER: There's an objection to
15 Exhibit 421 that we've lodged on hearsay grounds.
16 THE COURT: I didn't hear what you said.
17 MR. OLIVER: I apologize. We have objected
18 to this document on the ground that it's hearsay.
19 MR. RALSTON: May I go through a couple
20 questions, Your Honor?
21 THE COURT: Go ahead.
22 BY MR. RALSTON:
23 Q Dr. Mooney, did you bring documents with
24 you to the deposition in this case?
25 A I did.

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1 **Q And you surrendered those documents to me**
 2 **after you were asked whether you had brought any**
 3 **documents to the deposition, didn't you?**

4 A Yes.

5 **Q And we marked them as an exhibit to the**
 6 **deposition, didn't we?**

7 A Yes.

8 **Q Are these the documents you brought with**
 9 **you? Included among those was this chart that you**
 10 **brought to the deposition?**

11 A Yes.

12 MR. RALSTON: Your Honor, I ask that it be
 13 admitted.

14 THE COURT: All right. Mr. Oliver?

15 MS. BAE: I haven't heard anything that
 16 overcomes the hearsay objection.

17 BY MR. RALSTON:

18 **Q Did you prepare this document in the**
 19 **ordinary course of your business, Dr. Mooney?**

20 A Yes, I did.

21 **Q And you have responsibility for**
 22 **administering the restoration fund and the CVPIA**
 23 **programs, correct?**

24 A I have responsibility for administering the
 25 restoration fund, and I oversaw certain of the

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1 project managers for some of the activities for
 2 Reclamation project week.

3 **Q And you prepared this chart in the course**
 4 **of those job responsibilities, didn't you?**

5 A Yes, I did.

6 MR. RALSTON: I move for submission.

7 THE COURT: I will overrule the objection.
 8 The document is admitted.

9 MR. RALSTON: Thank you, Your Honor.

10 (Plaintiff's Exhibit No. 421, page

11 44, was admitted into Evidence)

12 BY MR. RALSTON:

13 **Q What does this chart show, Dr. Mooney?**

14 A This document shows the base revenue
 15 requirement for payment of power. It shows the
 16 mitigation restoration payments by power for the
 17 CVPIA. It shows the base loading value of market
 18 power as provided by Western, and it shows an
 19 estimate of how the peaking operation may increase
 20 the value of CVP power.

21 **Q Let's use the bar graph to the right of**
 22 **2016. It shows in pink or red. Do you see where**
 23 **I'm referring to?**

24 A I don't see any bar graph to the right of
 25 2016.

353

1 **Q For the year 2016 --**

2 A Okay.

3 **Q -- there's a line which is pink and green.**
 4 **Do you see where I'm saying?**

5 A Yes.

6 **Q The green represents the base revenue**
 7 **revenue requirement, correct?**

8 A Correct.

9 **Q And the pink represents the power's M&R**
 10 **payments, doesn't it?**

11 A Yes, it does.

12 **Q So what you're showing there is the**
 13 **division between their base revenue revenue**
 14 **requirement on the one hand in green and power's M&R**
 15 **segment in pink, correct?**

16 A I view it as red, but yes.

17 **Q Or red for 2016.**

18 And your blue lines are designed to
 19 represent -- I'll try to get your term -- the
 20 comparative commercial power equivalent, correct?
 21 That's what you're trying to compare there?

22 A The cost of acquiring that same power on
 23 the market.

24 **Q All right. And this chart shows that by**
 25 **2014, CVP power, including the base revenue**

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1 **requirement and the M&R payments, had just about**
 2 **become equal to the commercial equivalent, correct?**

3 A There's no just becoming about equal to.
 4 Each individual year has different conditions where
 5 sometimes power may be more expensive or less
 6 expensive.

7 **Q And in that year of 2014, they were just**
 8 **about the same, weren't they?**

9 A Correct.

10 **Q And the same in 2012, correct?**

11 A In 2012 it still appears to be with the
 12 peaking operation benefit.

13 **Q And in 2009?**

14 A Correct, in 2009.

15 **Q It was actually at or above, meaning that**
 16 **CVP power was at a cost at or above commercial**
 17 **rates?**

18 A Correct.

19 **Q And in 2015 there's no question that even**
 20 **with your peaking analysis included that CVP power**
 21 **had gone above the commercial equivalent in cost,**
 22 **correct?**

23 A That's correct.

24 **Q And the same in 2016, correct?**

25 A I think that may have been an estimate of

355

1 2016, so I don't know what the final outcome was,
2 but for the estimates used in this chart that would
3 be correct.

4 **Q And you brought this document with you to**
5 **your deposition, correct?**

6 A Correct.

7 **Q So this was apparently a matter of some**
8 **concern to you, true?**

9 A It was one of the topics I was identified
10 on to speak on behalf of the government so I
11 prepared information so that I could speak.

12 **Q And over the years you've done a number of**
13 **studies addressed to this type of issue, haven't**
14 **you?**

15 A I have plotted these numbers many times in
16 many different forms.

17 **Q All right. Let's go to 421/2, and I've**
18 **just provided to you the first page of a lengthy**
19 **document that is also part of this exhibit. You'll**
20 **see it's the Central Valley Project Improvement Act,**
21 **correct?**

22 A Correct.

23 **Q And you brought that document with you to**
24 **the deposition?**

25 A Correct.

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1 **Q And, in fact, you have worked with the**
2 **Central Valley Project improvement Act throughout**
3 **the time you did serve as restoration fund**
4 **administrator and then as branch manager, correct?**

5 A That's correct.

6 **Q So you're knowledgeable about the**
7 **implementation of the Central Valley Project**
8 **Improvement Act by the Bureau of Reclamation,**
9 **correct?**

10 A Primarily the 3406, 3407, and 3408.

11 **Q We will turn to those in due course.**

12 A I'm less knowledgeable about the other
13 provisions.

14 **Q All right. Let's go to JX 31, Joint**
15 **Exhibit 31. Should be in your book.**

16 **Would you take a minute to review that**
17 **document?**

18 A Okay.

19 **Q This letter is a letter of May 20th, 2014**
20 **that indicates it's rescinding the April 29, 2014**
21 **mid-year adjustment, correct?**

22 A Correct.

23 **Q Let's go to the next page. And that**
24 **indicates that Ms. Trujillo-Bixby worked on this**
25 **letter or this part of the project, correct, she's a**

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1 **contact point?**

2 A Correct.

3 **Q And that Ms. Autumn Wolfe, then acting**
4 **regional financial manager, was the person who**
5 **issued the letter apparently giving authority for**
6 **someone else to sign for it, correct?**

7 A Sherry Beasley would have signed as acting
8 for Autumn who was acting for the region financial
9 manager.

10 **Q All right. Let's go back to the prior**
11 **page. The April 29th letter that's being rescinded**
12 **-- let's make sure we understand that word.**

13 **Rescind means to set aside, right, to pull**
14 **back; is that a fair description?**

15 A I think in this case we're just pulling it
16 back.

17 **Q Pulling it back.**

18 **And you were involved in the process by**
19 **which Reclamation decided to rescind the 2014**
20 **mid-year adjustment letter, weren't you?**

21 A Yes, I was.

22 **Q Let's go to JX 30, take a moment to review**
23 **that document.**

24 A Okay.

25 **Q And this is a letter of April 29, 2014,**

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1 **that is, in fact, the mid-year adjustment letter,**
2 **isn't it?**

3 A Yes, it is.

4 **Q So this was the letter that was being**
5 **rescinded by JX 31 that we just looked at, right?**

6 A Yes, it is.

7 **Q Let's go to page two of that document**
8 **again. And, again, Ms. Trujillo-Bixby and Ms. Wolfe**
9 **were involved in that part of it, weren't they?**

10 A Yes, they are.

11 **Q Now, let's return to page one. We'll**
12 **highlight the \$45 million number, the \$24 million**
13 **number, and the \$20 million number.**

14 **Do you see where that's been highlighted?**

15 A Yes, I do.

16 **Q So this letter was telling Western that the**
17 **power contractors knew the mid-year assessment was**
18 **\$45 million, correct?**

19 A As a result of the mid-year assessment, the
20 total cost for -- obligation for 2014 would have
21 been \$45 million.

22 **Q And that's an increase of \$24 million from**
23 **the original assessment of 20, correct?**

24 A 25, yes.

25 **Q Let's then turn to the third page of this**

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document, and let's bring that up a bit.

And this is a chart attached to the letter that reviews the calculations. Take a moment to review that document.

A Okay.

Q Now, on the top, the second -- the first column, the second towards the middle indicates that the first six months of actual receipts from October 1, 2013, through March 31st, 2014, were the basis of those calculations.

Do you see where I'm referring to?

A Yes, I do.

Q And those refer to the receipts from the water contractors, correct?

A Correct.

Q So that's how the 5,683,829 was developed, right?

A That's my understanding, but it's not my area of responsibility.

Q And the next column gives the second six months which are projected. You see where I'm referring to?

A Yes, I do.

Q And it gives the 2.1 million number. Do you see where I'm referring to?

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A Yes, I do.

Q And the result of those two numbers is that the water receipts or combination of actual and estimated to be 7.859082 for the year, right?

A Correct.

Q Going down to the bottom of the chart, let's highlight the number 53,347,000, and that is the restoration fund requirement for the year, correct?

A For the mitigation and restoration payment.

Q Yes.

And that number essentially comes from your Washington budget office, correct?

A Correct.

Q That's not a number that you really -- or your office can change, correct?

A Correct.

Q It's dictated to you, essentially, by the Washington budget office?

MR. OLIVER: Objection. Argumentative.

THE COURT: Overruled.

THE WITNESS: We generally are more collaborative to the extent that we can be, but they are the ones who ultimately make the decision.

BY MR. RALSTON:

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Q They are the decisional authority with respect to that number; is that a fair statement?

A That's fair.

Q Then we have projected water receipts that we just reviewed of 7.89 million. Subtract that from the 53 million, and that yields the \$45 million number we looked at just a moment ago, correct?

A 7.85.

Q And that is -- the 45 million number is now, as of the mid-year adjustment, the number that power is required to pay, correct?

A Correct.

Q And that compares to the 20 million -- 20.5 million originally and, therefore, the net of the 24 million, correct?

A 25 million, correct.

Q So the increase -- if you go up to, again, the top of the column, in the first six months actual receipts from power had been 10,204,527, correct?

A Correct.

Q And that would have been -- and I realize you're not with Western, but that would have been to some extent based on the initial letter from Reclamation as to what the power requirement was

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going to be for the year, correct?

A I think that's part of it, but not the whole of it.

Q And so the new one, as for the second six months of the year, is to be 35 million, correct?

A I'm not familiar with how shortfalls and surpluses are or are not factored into this chart.

Q 35 million is what's indicated there, right?

A That's correct.

Q So when you compare what power had actually paid in the first six months, 10.2 million, from what they were projected to pay in the next six months based on this chart was to be 35 million, wasn't it?

A Can you say that again?

Q For the first six months the actual receipts from power were 10,204,527, correct?

A Correct.

Q And according to this chart prepared by Reclamation, in the second column it indicates a projection for six months and the number 35,283,391, correct?

A Correct.

Q And that's the projected receipts from

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1 power for the next six months as indicated there,
2 correct?

3 A Correct.

4 Q That's an increase of close to 350 percent
5 for the second six months versus the first six
6 months, correct?

7 A It has to do with how Western distributes
8 the payments between months --

9 Q That's not my question. My question was
10 simpler.

11 35 million is almost three-and-a-half times
12 10 million, isn't it?

13 A Oh, yeah, that's just math.

14 Q There we go.

15 When this letter was sent to Western, it
16 would have then been distributed or equivalent to
17 the CVP power contractors, wouldn't it?

18 A I don't know if they send it out or just
19 post it.

20 Q They make the power contractors aware of
21 this missive from Reclamation that the new
22 requirement is \$45 million, right?

23 A To my understanding.

24 Q Well, let's talk about your understanding.
25 The reaction from power contractors to the

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1 A Correct.

2 Q But instead it's Brenda Bryant. Now, do
3 you know Brenda Bryant?

4 A Yes, I do.

5 Q And at the time, this is 2014, was she the
6 regional financial manager?

7 A That's what the letter says.

8 Q She had a senior position at Reclamation?

9 A Yes, she did.

10 Q At the Mid-Pacific Region?

11 A Yes.

12 Q Go back to page one. Let's highlight the
13 -- thank you.

14 So the letter -- this is the initial 2014
15 obligation letter, correct?

16 A Correct.

17 Q And it indicates that the total restoration
18 payments for the fiscal year will be the 53,347,000,
19 right?

20 A Correct.

21 Q Which is the number we saw just a moment
22 ago in the earlier exhibit?

23 A Yes.

24 Q Here, restoration payments by water are
25 indicated to be 32 million, correct?

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1 \$45 million was, shall we say, not well received?

2 MR. OLIVER: Objection. Foundation.

3 THE COURT: Overruled.

4 THE WITNESS: I had no direct discussion
5 with the power customers in response to this
6 mid-year adjustment.

7 BY MR. RALSTON:

8 Q You didn't?

9 A It's not the function of the restoration
10 administrator.

11 Q You had no direct discussions with power
12 customers concerning the 2014 mid-year adjustment;
13 is that your testimony?

14 MR. OLIVER: Objection. Asked and
15 answered.

16 THE COURT: Overruled.

17 THE WITNESS: I don't recall any direct
18 discussion with the power customers.

19 BY MR. RALSTON:

20 Q Let's go to Joint Exhibit 28. Take a
21 moment to review that.

22 A Okay.

23 Q Now, let's go to page two, briefly.

24 Again, you'll see Ms. Trujillo-Bixby is on
25 the letter, correct?

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1 A Correct.

2 Q Again, that's 2014. And so power's
3 obligation at that point is only the 20.5 million,
4 right?

5 A If we're truncating instead of rounding,
6 correct.

7 Q Let's go to JX 28/2 -- I meant 3, I'm
8 sorry. If you could bring that up.

9 Again, let's walk through this very
10 briefly. On the right-hand side of this document
11 are projected water deliveries over time, right,
12 over the year?

13 A Correct.

14 Q And then the calculation in the middle of
15 the document which shows restoration payments by
16 water, irrigation, M&I, does the acre-feet, and then
17 the charge spread out over those two periods to
18 yield the \$32 million number, right?

19 A Correct.

20 Q In the middle of the chart shows the
21 \$90 million; do you see that?

22 A Yes, I do.

23 Q Now, that's the 1992 dollar equivalent
24 essentially of what you all described as the
25 requirement under the CVPIA to be essentially

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1 collected in the three-year period, right?

2 A We refer to that as the three-year rolling
3 average.

4 Q That's the total of the three-year rolling
5 average of what it's got to get, right?

6 A Correct.

7 Q Then are shown the actual payments from
8 2012 of 33.7 million, correct?

9 A Correct.

10 Q And then projected payments for 2013 of
11 24.2 million, right?

12 A Correct.

13 Q Totaling 57.5 million leaving a balance of
14 32,036,000. Do you see where I'm referring to?

15 A I believe it's 57.96.

16 Q I'm sorry, that's the total of those two,
17 but the balance, when you subtract 57 million from
18 the 90, you get the 32 million?

19 A That's correct.

20 Q And that 32 million yields, in 1992
21 dollars, yields in 2014 dollars the 53,347,000 as
22 shown right beneath that, correct?

23 A Correct.

24 Q And from that is taken the water payments
25 of 32.7 million, yielding the power obligation of

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1 20.5.

2 Now, with respect to the estimated
3 projected payments for 2013, that is a projected
4 number, right?

5 A For 2013?

6 Q Yes.

7 A Yes, that is.

8 Q So the number that actually results of
9 first taking actual payments for 2012, then
10 projected payments for FY 2013, and that yields the
11 \$32 million number, the balance. So your
12 determination here is a combination of actuals for
13 one year, right, 2012? Next is a projection for the
14 next fiscal year, and that's how it yields the total
15 for water for total payments there, correct?

16 A Correct.

17 Q In your three-year process?

18 A Correct.

19 THE COURT: Mr. Ralston, shall we take a
20 lunch break at this point?

21 MR. RALSTON: Your Honor, that would be
22 perfect. Thank you.

23 THE COURT: All right. We'll resume at
24 1:30.

25 (Lunch recess taken from 12:28 to 1:33)

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1 THE CLERK: All rise. The court is again
2 in session.

3 THE COURT: Thank you. You all may be
4 seated except for Mr. Ralston.

5 Go ahead.

6 MR. RALSTON: Thank you, Your Honor. We're
7 back on the record and back to Joint Exhibit 28.

8 BY MR. RALSTON:

9 Q This was an exhibit we were examining
10 before we broke, Dr. Mooney, and this is the initial
11 letter we were talking about earlier with respect to
12 the FY 2014 obligation.

13 It indicates in the very last paragraph
14 that -- if you'll take a look at the second
15 sentence, take a moment to read that -- that there
16 will be a mid-year adjustment on or about April 1st,
17 2014. Do you see what I'm referring to?

18 A Yes, I do.

19 Q And that is per an agreement of April 21st,
20 1995, correct?

21 A Correct.

22 Q Let's go to JX 8. If you'll take a moment
23 and review that.

24 And my question is: Is that the letter of
25 April 21st, 1995 that is referred to in JX 28?

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1 A Yes, it is.

2 Q And let's go to the next page. I think at
3 the very top there's some bullet points. And you'll
4 see the top bullet point, which we will highlight,
5 take a moment and review that bullet point.

6 A Okay.

7 Q And that first bullet point describes what
8 will become the mid-year adjustment letter, correct?

9 A That's correct.

10 Q And its purpose, as said in the last line,
11 is to modify the initial determination with the most
12 recent hydrological projections applicable to the
13 subject fiscal year.

14 Do you see what I'm referring to?

15 A I see where you're referring to.

16 Q So the mid-year adjustment letters were to
17 have the, quote, "most recent hydrological
18 projections applicable to the subject fiscal year,"
19 correct?

20 A Correct.

21 Q And they would be more recent than the
22 initial letter that would come out prior to the
23 beginning of the fiscal year, right?

24 A There would be no hydrologic projection in
25 the beginning.

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1 **Q Say again.**
 2 A There's no hydrologic projection at the
 3 beginning of the fiscal year.
 4 **Q What do they use for calculation of water**
 5 **receipts in the initial letter? We can go back to**
 6 **JX 28, if you like.**
 7 A I'm not familiar with the calculation
 8 method for water deliveries.
 9 **Q Let's go to JX 2 -- I'm sorry. JX 28,**
 10 **page two and chart three.**
 11 **We went through this before. This is a**
 12 **calculation and analysis of the water receipts and**
 13 **the calculations, correct?**
 14 A Correct.
 15 **Q That's what I'm referring to.**
 16 A I'm not familiar with how they derive these
 17 numbers.
 18 **Q You're not familiar with how they derive**
 19 **which of these numbers, the water receipts numbers?**
 20 A The water receipts numbers.
 21 **Q But you in the ordinary course of your work**
 22 **when you were restoration fund administrator relied**
 23 **upon the information that was conveyed in Joint**
 24 **Exhibit 28/3, didn't you?**
 25 A No, I did not.

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1 **Q Do you have any reason to question that**
 2 **data?**
 3 A No, I do not.
 4 **Q Let's go back to JX 8/2 where we're**
 5 **discussing the most recent hydrological projections.**
 6 **And you agree that that is what is to be in the**
 7 **mid-year adjustment letter, yes?**
 8 A Yes, I do.
 9 **Q Let's go back now to JX 28/3 and highlight**
 10 **that.**
 11 **And, again, you just testified that you**
 12 **have no role in the compilation of this data,**
 13 **correct?**
 14 A Correct.
 15 **Q This data is compiled by Gail**
 16 **Trujillo-Bixby at that time?**
 17 A I think she is where I would get this data
 18 from.
 19 **Q That's who would give you this data?**
 20 A Correct.
 21 **Q And so you had really no role in generating**
 22 **this type of data?**
 23 A I did not.
 24 **Q Let's go to JX 29. Take a moment to review**
 25 **that.**

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1 A Okay.
 2 **Q Are you familiar with this letter?**
 3 A I am familiar with this letter.
 4 **Q This was a letter of January 16, 2014, in**
 5 **which Reclamation provided essentially updated data**
 6 **as to water receipts and the M&R payment**
 7 **calculations, correct?**
 8 A Correct.
 9 **Q And let's highlight paragraph three, the**
 10 **first full paragraph -- second full paragraph from**
 11 **the bottom, starting with "Projected." You see in**
 12 **the second sentence it says:**
 13 **"This projection uses updated hydrological**
 14 **data for estimating water deliveries."**
 15 **Do you see where I'm referring to?**
 16 A Yes, I do.
 17 **Q So would you agree with me that that means**
 18 **this letter of January 16, 2014, JX 29, has more**
 19 **updated hydrological data than JX 28, the letter we**
 20 **just examined a moment ago?**
 21 A Yes, I would.
 22 **Q Go to the next page, please.**
 23 **Again, you'll see Ms. Trujillo-Bixby's name**
 24 **as being involved in the letter, correct? And the**
 25 **signatory is Brenda Bryant, regional financial**

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1 **manager.**
 2 A The signatory is Autumn Wolfe.
 3 **Q It was Ms. Wolfe who signed for Brenda**
 4 **Bryant, correct?**
 5 A Correct.
 6 **Q And what role did Ms. Wolfe have at the**
 7 **time she would be signing for Ms. Bryant?**
 8 A She was probably the rate setting manager
 9 at the time.
 10 **Q Let's go back to page one. And here we see**
 11 **from the introduction in the first paragraph that**
 12 **the power payment obligation is now 33 million --**
 13 **we'll highlight that number -- which is an increase**
 14 **of 12 million from the original 20 million. Do you**
 15 **see where I'm referring to?**
 16 A Yes.
 17 **Q Then let's go to JX 28 -- 29/3. And in the**
 18 **column at the top we'll see that the acre-feet for**
 19 **irrigation is 1.3 million. And if we compare that**
 20 **to JX 28/3 -- start at JX 28/3. One more. There**
 21 **you go. And highlight on the water, irrigation**
 22 **water.**
 23 **You can see those two highlighted numbers.**
 24 **The big change is the decrease in irrigation**
 25 **acre-feet from 2.5 million to 1.3, correct?**

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1 A Correct.
 2 Q And as a result of that -- let's go back to
 3 JX 29/3. As a result of that, water's total
 4 contribution is now down to 19 million which has a
 5 commensurate result in increasing power's
 6 contribution to 33 million, correct?
 7 A Correct.
 8 Q And that reduction from 2.5 million to
 9 1.3 million in estimated acre-feet and thus water
 10 receipts occurred between August of 2013 and January
 11 of 2014, correct?
 12 A Correct.
 13 Q Did you have any role in this letter, JX
 14 29, the January letter being issued?
 15 A Not that I recall.
 16 Q All right.
 17 A And it may have crossed me, but I don't
 18 recall it.
 19 Q And then we'll go to JX 30. So, again,
 20 this is the mid-year adjustment letter. And let's
 21 do a quick comparison of JX 28, 29 and 30. So we'll
 22 take the charts at each, JX 28 -- there we go.
 23 Those are drawn from each of the joint exhibits that
 24 we just examined.
 25 And you can see in the lower right-hand

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1 corner, the projected water payments are only
 2 7.8 million in mid-year adjustment versus 19 million
 3 in the January letter versus 32 million in the
 4 August of 2013 letter.
 5 Would you agree?
 6 A Where are you getting that final number?
 7 Oh, sorry, found it.
 8 Q Upper right-hand corner.
 9 And as a result, power, looking at the
 10 upper right-hand corner, has gone from 20.5 million
 11 in August of 2013 to 33 million in January of 2014,
 12 and then to 24 million difference increase in April
 13 of 2014 in the mid-year adjustment letter.
 14 Do you see where I'm referring to the
 15 increases?
 16 A I -- I think some of those you stated as
 17 total payments and some of them are increases.
 18 Q Yes. All right. Well, let's highlight.
 19 You're correct. The 20 million, the 33 million, the
 20 45, yes.
 21 So the increment has gone from 20 million
 22 to 33 to 45, in that period of time, correct?
 23 A Correct.
 24 Q Let's go to PTX 302. Then let's go to 304,
 25 PTX 304. Take a moment to review that.

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1 A Okay.
 2 Q Now, this is an e-mail, looking at the top,
 3 from you to Brenda Bryant, correct?
 4 A An e-mail from Brenda Bryant to me.
 5 Q I'm sorry, from Brenda Bryant to you,
 6 right. It begins there. And its topic is: "CVPIA
 7 extended repayment schedule from Western." Do you
 8 see where the subject is?
 9 A I see the subject.
 10 Q And if you would go down the page, you'll
 11 see right beneath there is an e-mail from Ms. Bryant
 12 apparently to you: Hi David, signed Brenda. Do you
 13 see where I'm referring to, e-mailed May 3rd, 2014?
 14 A Yes, I do.
 15 Q And then right beneath there is an e-mail
 16 of May 1, 2014, from you entitled: "To folks." And
 17 your signature -- I'm sorry -- your signature block
 18 is on the next page at 304/2. If you would take a
 19 moment and review that e-mail portion.
 20 A Okay.
 21 Q Now, you say in the second paragraph that
 22 where you're discussing this -- I should first
 23 identify Sonja, who is identified in your first
 24 paragraph as Sonja Anderson?
 25 A Correct.

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1 Q Of Western?
 2 A Correct.
 3 Q And Regina is Regina Reiger of Western?
 4 A Correct.
 5 Q So they had called you from Western that
 6 day. Yes?
 7 A Yes.
 8 Q And they talk about having the authority to
 9 spread the billing for the mid-year adjustment over
 10 this year and next. Do you see where I'm referring
 11 to?
 12 A Yes, I do.
 13 Q What were they proposing to do?
 14 A I don't recall specifically other than
 15 what's stated there.
 16 Q You told them in the next paragraph that
 17 you don't know whether Reclamation would agree with
 18 their authority to do whatever it was they were
 19 talking about, and you didn't even ask for their
 20 authority, but then, you said, and I'll read it:
 21 "But from strictly a program implementation
 22 standpoint, Reclamation and the service are prepared
 23 to work with power and accommodate reduced
 24 collections this year."
 25 Do you see where I'm referring to?

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1 A I see where you're referring to.
 2 **Q Service refers to Fish and Wildlife**
 3 **Service?**
 4 A That's correct.
 5 **Q And Reclamation refers to essentially the**
 6 **position you hold?**
 7 A Reclamation is the agency I work for.
 8 **Q Right. So you were speaking for**
 9 **Reclamation in this e-mail?**
 10 A Yes.
 11 **Q All right. And what did you mean by "are**
 12 **prepared to work with power and accommodate reduced**
 13 **collections this year"?**
 14 A If there was found to be flexibility in how
 15 we collect from power, we would look at how we can
 16 adjust the program to shift expenditures around from
 17 this year into a future year, if necessary.
 18 **Q So accommodating reduced collections**
 19 **meaning that collections for the restoration fund**
 20 **would be dropping in FY 2014, right?**
 21 A Would be moving from FY '14 into a
 22 subsequent year.
 23 **Q A later year.**
 24 **Now, this e-mail is dated May 1, 2014,**
 25 **which is, what, two days after the mid-year**

380

1 adjustment letter which we just reviewed at JX 30,
 2 right, April 29th?
 3 A Correct.
 4 **Q So was this discussion you had with Sonja**
 5 **and Regina essentially responding to the mid-year**
 6 **adjustment letter, JX 30?**
 7 A I'm not sure. I would have to speculate.
 8 **Q No need to speculate. We'll cover all this**
 9 **in detail. That's fine.**
 10 A Okay.
 11 **Q All right. Let's go up to the next**
 12 **paragraph, the May 3rd e-mail from Ms. Bryant to**
 13 **you. There she talks about the MP region solicitor.**
 14 **MP is Mid-Pacific?**
 15 A Yes, it is.
 16 **Q And region solicitor is essentially the**
 17 **office of counsel for Mid-Pacific Region?**
 18 A I actually don't know how the solicitor's
 19 office characterizes themselves.
 20 **Q All right. They provide comments on May**
 21 **the 2nd indicating that "we" -- is it fair to say**
 22 **"we" means Reclamation?**
 23 A Probably.
 24 **Q "...have flexibility in the application of**
 25 **the mid-year adjustment because of the three-year**

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1 rolling average."
 2 Then they talk about the appropriations
 3 language and they say: "Further consideration has
 4 been requested from the solicitor's office and the
 5 Washington budget office to determine which language
 6 is controlling, the Congressional Appropriations Act
 7 2014 or the CVPIA."
 8 Which of those two did you ever -- were you
 9 told was controlling, and why was that an issue?
 10 A I recall that Brenda had some concerns. I
 11 don't recall what they specifically were.
 12 **Q Concern as to which was the controlling**
 13 **authority?**
 14 A I couldn't -- I would have to speculate
 15 from this text and, Brenda uses the word which
 16 language is controlling in this text.
 17 **Q This e-mail was in response to your e-mail**
 18 **of May the 1st, wasn't it?**
 19 A Yes, it was.
 20 **Q Where you talked about accommodating**
 21 **reduced collections this year?**
 22 A Right, yes.
 23 **Q Let's go to PTX 305. And there we have**
 24 **another version of the e-mail we just reviewed.**
 25 **And, again, this verifies at the top that it's from**

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1 Brenda Bryant to you, and a copy to Autumn Wolfe and
 2 Mr. Woodley.
 3 Do you see what I'm referring to?
 4 A I see what you're referring to.
 5 **Q And who is Mr. Woodley?**
 6 A Mr. Woodley is a regional resources
 7 manager.
 8 **Q And what role does he have with respect to**
 9 **an extended repayment schedule from Western?**
 10 A He would be on the program side so he would
 11 be my supervisor.
 12 **Q So he had to deal with accommodating the**
 13 **reduced collections for the year, correct?**
 14 A He would have been who I report to on how I
 15 would propose to implement the program.
 16 **Q All right. PTX 306.**
 17 **Why don't you take a moment and review**
 18 **that.**
 19 A Okay.
 20 **Q Go down to the third paragraph beginning**
 21 **with: Reclamation sent a mid-year adjustment letter**
 22 **on April 29th.**
 23 Do you see what I'm referring to?
 24 A I see that.
 25 **Q Increasing the total annual collection from**

383

1 power from 21 to 45 million, which is consistent
2 with the documents we just reviewed, right?

3 A Correct.

4 Q Then you say one sentence after that that:
5 The three-year rolling average, high, medium and
6 low, drought conditions and export restrictions
7 cause disproportionate payments and unpredictable
8 fluctuations in power collections.

9 Is that true?

10 A That is true.

11 Q And the CVP repayment allocation for power
12 calculated using a ten-year rolling average is about
13 24 percent. Power currently provides about
14 33 percent of CVPIA collections over the same
15 period.

16 Is that true?

17 A Yes.

18 Q Now, at the bottom, the last paragraph on
19 that page, it talks about Western considering
20 whether the FY 2014 collection can be spread over
21 the next two years.

22 Do you see where I'm referring to?

23 A It's moving around a lot. Let me find it
24 on here.

25 Q He's trying to put it on one page for you.

384

1 A Oh.

2 Q We're at the top of the next page.

3 A I see that.

4 Q Western is apparently trying to spread this
5 mid-year adjustment increase over the next two
6 years, from what this says. Am I right?

7 A That's what the text says.

8 Q And in the last sentence on 306/1 carrying
9 over to 306/2, you repeat that Reclamation and
10 service are prepared to accommodate delayed funding,
11 would require about 30 million from power this
12 fiscal year.

13 How did you determine that 30 million from
14 power would be sufficient?

15 A I don't remember the specific details that
16 went into that calculation.

17 Q And then right beneath there you repeat the
18 comment from the Mid-Pacific Region solicitor, so
19 apparently you still hadn't been told which was
20 controlling the annual appropriations act or the
21 CVPIA. Is that a fair conclusion?

22 A That's a fair conclusion.

23 Q The next is -- sorry, go back to the first
24 page of the document.

25 Now, this document is entitled "Information

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1 Briefing Memorandum for the Regional Director" you
2 see there at the top, correct?

3 A Yes, I do.

4 Q And who was the regional director at that
5 time?

6 A That would have been David Murillo.

7 Q So you were briefing Mr. Murillo on these
8 issues, correct?

9 A Correct.

10 Q And as regional director he is essentially
11 the leader of the Mid-Pacific Region. Am I correct?

12 A Correct.

13 Q And this is from you on May the 5th of
14 2014, correct?

15 A Correct.

16 Q Let's go to PTX 308. Take a moment to
17 review that.

18 A Okay.

19 Q This is an e-mail from Mr. Hirahara to you.
20 Mr. Hirahara, again, is that Western?

21 A Yes.

22 Q And he's copying Ms. Reiger at Western,
23 correct?

24 A That's the name listed.

25 Q All right. And we won't read through the

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1 entire document, but you've had a chance to look
2 over it.

3 In essence, he's conveying the unhappiness
4 of Western and CVP power entities with respect to
5 where things are playing out here with the mid-year
6 adjustment, isn't he?

7 A He does say he heard from Jerry Toenyes.

8 Q In fact, he says power is close to the edge
9 as a result of this, doesn't he?

10 A Does Howard say this?

11 Q He certainly does. He may be quoting
12 someone else, but he repeats that, doesn't he?

13 A He passes on that's his understanding of
14 the power customers.

15 Q Let's go to PTX 314. Take a moment to
16 review that.

17 A Okay.

18 Q So this is e-mail from you of May 12, 2014,
19 to Regina Reiger, correct?

20 A Yes.

21 Q And you've copied Gail Trujillo-Bixby,
22 correct?

23 A Correct.

24 Q Was she working with you at this time on
25 this matter?

387

1 A We coordinate throughout the year so I
2 don't know if I had run this by her specifically.
3 **Q You copied her, however, on the e-mail?**
4 A Yes, I did.
5 **Q All right. In the first paragraph you're**
6 **saying: "I spoke with Gail..."**
7 **May I assume that Gail is Gail**
8 **Trujillo-Bixby?**
9 A Yes.
10 **Q And you say: "...what would happen if we**
11 **came up short this year as a result of staying with**
12 **the January letter and not implementing the mid-year**
13 **adjustment."**
14 **What did you mean by that?**
15 A I meant if we did not -- had not issued the
16 mid-year adjustment and instead stuck with our
17 allocation of power from January.
18 **Q The mid-year adjustment is the document we**
19 **looked at a few moments ago, right?**
20 A Correct.
21 **Q The letter of April 29th, correct?**
22 A Correct.
23 **Q And the January letter you're referring to**
24 **is the other document we looked at which is JX 29,**
25 **right?**

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1 A Correct.
2 **Q So you were suggesting putting aside the**
3 **mid-year adjustment letter, right?**
4 A Correct.
5 **Q And going back to the January letter,**
6 **right?**
7 A Correct.
8 **Q Now, you knew the January letter had data**
9 **that was less current than the April letter, didn't**
10 **you?**
11 A Yes, I did.
12 **Q So you were proposing to use the January**
13 **letter with the less current water receipts data,**
14 **correct?**
15 A I was proposing not to update from the
16 January letter.
17 **Q Not to update, I see. Because the mid-year**
18 **adjustment is an update of the January data?**
19 A Correct.
20 **Q And so that's different from using the old**
21 **data, you didn't update it, that's the distinction**
22 **you're drawing?**
23 A I'm saying right here we proposed staying
24 with the estimates in the January letter.
25 **Q And not use the mid-year adjustment letter?**

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1 A Not use the mid-year adjustment letter.
2 **Q Which was the letter that was per the**
3 **agreement from April 21, 1995, between Western and**
4 **Reclamation, correct?**
5 A The mid-year adjustment process was set up
6 under that.
7 **Q Yes. So you were proposing to set aside**
8 **the official letter and return to the January**
9 **letter?**
10 A I don't know what makes it an official
11 letter.
12 **Q Fair enough.**
13 **You were proposing to set aside the letter**
14 **that was issued as a result of the April 21st, 1995**
15 **agreement between Western and Reclamation that was**
16 **April 29, 2014, right?**
17 A We would modify the agreement we had with
18 Western to not be issuing the April letter.
19 **Q You would. Did you modify the agreement?**
20 A We worked with Western and ultimately
21 agreed that we would rescind the mid-year
22 adjustment.
23 **Q You did. However, did you actually modify**
24 **the April 21st, 1995 agreement?**
25 A There this was -- 1995 was just a letter.

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1 **Q Just a letter. A letter that continues to**
2 **be operative to this day, does it not?**
3 A With the exception of when we have not done
4 a mid-year adjustment, yes.
5 **Q Which would be 2014, correct?**
6 A Correct.
7 **Q And as we'll see, 2015, correct?**
8 A Correct.
9 **Q In fact, the April 21st, 1995 letter is**
10 **used to this day for the basis of mid-year**
11 **adjustment letters, isn't it?**
12 A Correct.
13 **Q Let's go to the next paragraph. And there**
14 **you outline, as I read it, that you would collect 33**
15 **million from power. That's the number actually from**
16 **the January letter, right?**
17 A Correct.
18 **Q And you'd be about 12 million short of the**
19 **53 million ceiling due to lower than anticipated**
20 **water deliveries, right?**
21 A That's the language of the letter -- the
22 e-mail.
23 **Q So let's see where those numbers come from.**
24 **The 53 million is the number the Washington office**
25 **tells you you have to get this year, correct?**

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1 A Correct.
 2 **Q And that number you can't change, right?**
 3 A Personally, no.
 4 **Q Mid-Pacific Region can't change it, can**
 5 **they?**
 6 A The decision authority is in the Washington
 7 office.
 8 **Q Thank you.**
 9 **And so you were saying -- we'll go back to**
 10 **the January letter where we only get 33 million from**
 11 **power and that will mean you'll be 12 million short**
 12 **of the ceiling, right?**
 13 A Correct. Well, it would depend on what
 14 water deliveries actually are.
 15 **Q Of course.**
 16 A But we think we would be about 12 million
 17 short.
 18 **Q It was your estimate as of May the 12th at**
 19 **10:40 p.m.?**
 20 A Correct.
 21 **Q You then propose that that 12 million would**
 22 **be added to the ceiling in 2015, of 57 million,**
 23 **generating a new ceiling of 69 million. Am I right?**
 24 A You're right on the language of the text.
 25 I now know that we don't consider that a change in

392

1 the ceiling.
 2 **Q Well, let drill down a bit on that.**
 3 **You were proposing to move this 12 million**
 4 **from one year to the next, right?**
 5 A Correct.
 6 **Q And adding it to the ceiling of the next**
 7 **year, I guess, that was the idea?**
 8 A I know now that it would have been a
 9 shortfall that would have been assessed in 2015, but
 10 it would not have changed the 2015 ceiling.
 11 **Q It would not have changed the 2015 ceiling.**
 12 **So how is this shortfall supposed to be**
 13 **dealt with?**
 14 A My understanding is they collect those
 15 funds in the subsequent year.
 16 **Q All right. We'll come to that.**
 17 **You would then continue with the three-year**
 18 **rolling average with a 2016 ceiling of 40 million**
 19 **because 2013 was about 40 million, correct? So you**
 20 **were going to adjust the ceiling in 2016 as well per**
 21 **this proposal, correct?**
 22 A On this proposal I was working with
 23 ceiling, and that was probably not the precise terms
 24 I should have used.
 25 **Q Now, you note towards the end of that**

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1 **paragraph that you're likely to see another 70**
 2 **million year in the future, if you do that, right?**
 3 **Correct?**
 4 A Those are the estimates for how I thought
 5 the three-year rolling average would play out.
 6 **Q And the most you've ever collected from**
 7 **water historically is 32 million at that point,**
 8 **correct?**
 9 A That's what I thought at the time of this
 10 e-mail.
 11 **Q Go to the last paragraph and read the last**
 12 **sentence, please. And we'll highlight that for you.**
 13 **Let's highlight the last sentence.**
 14 **You say: "There's no way to maintain the**
 15 **three-year rolling average while pushing costs into**
 16 **2016 without intentionally modifying estimates of**
 17 **2015 water deliveries, and we aren't ready to go**
 18 **there yet."**
 19 **You said that, correct?**
 20 A Correct.
 21 **Q Now, let's be key. In your first paragraph**
 22 **you've talked about modifying water deliveries for**
 23 **fiscal year 2014, right, that's what the second**
 24 **paragraph talks about?**
 25 A I don't believe I proposed to modify water

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1 deliveries in 2014.
 2 **Q You did not, okay. So you were talking in**
 3 **this third paragraph about intentionally modifying**
 4 **estimates for 2015, or potentially, but you weren't**
 5 **ready to go there yet?**
 6 A Correct.
 7 **Q Did there come a time when you did propose**
 8 **intentionally modifying the water delivery estimates**
 9 **for FY 2015?**
 10 A Yes, there were. I'm not sure if I
 11 proposed it for 2015 or just for 2016. I have to
 12 look at the table.
 13 **Q The table would help refresh your memory?**
 14 A I'm guessing you're going to my proposal so
 15 that would be where I would look at the numbers and
 16 the years.
 17 **Q Let's go to Plaintiffs' Exhibit 315.**
 18 **Now, this begins as an e-mail from you to**
 19 **Ms. Bryant of May 13, 2014. Agreed?**
 20 A Correct.
 21 **Q That's an e-mail chain. Let's go to**
 22 **page two and begin with your e-mail. This is at PTX**
 23 **315/2, at May 12, 2014, at 5:11 p.m., and it's to**
 24 **Brenda. Is that Brenda Bryant?**
 25 A Yes, it is.

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1 Q You say: "Attached is my proposal for
2 discussion tomorrow. I'm not sure if this will work
3 for you, but it's the best I can figure out that
4 doesn't hand power a clear mandate for making their
5 own legislation."

6 And tell us what did you mean by that
7 statement.

8 A I meant that there are years when power
9 pays a lot and there are years when power does not
10 pay very much. And so when power comes and provides
11 their case, they cherry pick the years where power
12 is expensive and they neglect the years where power
13 is not as expensive. And so in trying to stabilize
14 the fund, we would have fewer years where we exceed
15 market cost and it would be more reflective of a
16 more long-term average value of power.

17 Q And you were concerned that the mid-year
18 adjustment letter and the amount of \$45 million
19 would provide power with a tool to advance their
20 legislative agenda?

21 A I was concerned it would provide a year
22 with very high power costs compared to the market
23 that was not representative of the long-term
24 marketability.

25 Q Well, you refer to it, "a clear mandate."

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1 That's the language you use, yes?

2 A That is the language that I used.

3 Q For making their own legislation, correct?

4 A Correct.

5 Q You say in the next line: "I need to check
6 with Gail one last time to make sure I'm doing the
7 three-year rolling average correctly."

8 Do you see where I'm referring to?

9 A Yes, I do.

10 Q So it's fair to assume you were still
11 working with Ms. Trujillo-Bixby at that point?

12 A Yes, I was.

13 Q And then in the last paragraph you call
14 2014 the year that never was. What does that mean?

15 A I don't remember. It was a very tough
16 year.

17 Q Let's go to the e-mail just above there
18 back on the first page. At the very bottom of that
19 page. Again, this is Plaintiffs' Exhibit 35, the
20 first page, an e-mail of May 13, 2014, at 1:56 p.m.,
21 from Brenda Bryant. It says: "Hi David." It's
22 fair to assume that's to you, yes?

23 A Yes.

24 Q And Ms. Bryant reports: "I spoke with
25 Gail, and she is uncomfortable with the proposed

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1 letter because of the accuracy of rate estimation
2 that we discussed."

3 That Gail is Gail Trujillo-Bixby?

4 A Yes, it is.

5 Q And why was she uncomfortable with the
6 proposed letter because of the accuracy of the rate
7 estimation?

8 MR. OLIVER: Objection. Lack of
9 foundation. Calls for speculation.

10 THE COURT: Sustained.

11 BY MR. RALSTON:

12 Q Did Ms. Bryant share with you at any point
13 Ms. Trujillo-Bixby's concern?

14 A I don't recall.

15 Q Do you know what the accuracy of rate
16 estimation referred to?

17 A I would have to speculate.

18 Q You needn't do that.

19 Let's go to the e-mail at the top. This is
20 the one from you to Ms. Bryant.

21 In the second paragraph you say: "I do not
22 think it would be responsible for us to bill power
23 45 million. I do not think it would be responsible
24 to bill power over 40 million next year. Therefore,
25 I think we need to go with an alternative that uses

398

1 the flexibility we have in estimating water
2 payments."

3 Why was it not responsible to bill power
4 for 45 million?

5 A Because we found we had the flexibility to
6 spread those payments out over multiple years.

7 Q Now, let's make sure we are in agreement on
8 the 45 million number. That's the 45 million from
9 the mid-year adjustment letter, right?

10 A Correct.

11 Q JX 30 we looked at, April 29, 2014, right?

12 A Correct.

13 Q So you're saying in effect you didn't think
14 it would be responsible to bill power for the amount
15 that was in the mid-year adjustment letter, right?

16 A Given our flexibility in spreading it out,
17 I did not believe 45 million was what we should have
18 been doing.

19 Q If that was the number, as you testified
20 earlier, that's necessary to meet the number that
21 Washington provides you, right?

22 A Yes, that would have been.

23 Q So the mid-year adjustment number was not a
24 responsible way to meet the number that Washington
25 had given you, correct?

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1 A I believe there were alternatives that were
2 better for power.

3 Q We'll get to those. Let's first talk about
4 you're saying here that it was not responsible to
5 get the 45 million that the mid-year adjustment
6 letter said was necessary to meet the number that
7 Washington had given you?

8 A When we had alternatives.

9 Q Answer my question.

10 A I said it was not responsible.

11 Q And you said it wouldn't be responsible to
12 do 40 million the next year, correct?

13 A Correct.

14 Q Then you talk about alternatives, and then
15 the next paragraph you talk about stepping back, big
16 picture. And then you say:

17 "If it comes down to a choice between
18 following an estimation procedure and undermining
19 the viability of project power versus doing
20 something that makes the project work but requires
21 exercising creativity in the flexibility left to us
22 under the law, I would suggest we make the project
23 work."

24 So let's look at that choice. The
25 estimation procedure you're referring to there is

400

1 the one that resulted in the mid-year adjustment,
2 correct?

3 A Correct.

4 Q And you were concerned that that mid-year
5 adjustment estimation procedure would result in,
6 quote, "undermining the viability of project power,"
7 right?

8 A Correct.

9 Q And so the alternative that you saw that
10 would make the project work required exercising
11 creativity in the flexibility. That's what you
12 said.

13 Then you say: "I realize this is not an
14 easy year. Departing from business as usual is
15 tough."

16 What was the departure from business as
17 usual to which you were referring?

18 A We would have had to change our agreement
19 with Western in how we distribute -- in how we
20 estimate power's required payment in any given year.

21 Q Meaning changing the water estimates?

22 A Well, we would have had to change the water
23 estimates and potentially the mid-year adjustment
24 letter -- or, sorry, the 1995 agreement that set up
25 the mid-year adjustment as a way of allocating

401

1 funding of power.

2 Q Now, another alternative that would have
3 made the project work would have been the
4 proportionality limitation in 3407(d)(2)(a) in which
5 power's M&R payments would have been to the greatest
6 degree practicable proportionate with their
7 repayment allocation, correct?

8 A No, that would not have met the Fish and
9 Wildlife requirements under the CVPIA or Endangered
10 Species Act, so that would not have been a viable
11 way of making the project work.

12 Q Ah, I see. So that's why it wouldn't be
13 because of those other concerns?

14 A And it would have been in the government's
15 view illegal.

16 Q But let's turn to the issue of if you had
17 done that, gone to proportionality, you would not
18 have had to deal with this choice talked about here,
19 would you?

20 A I'd have to speculate on what it would look
21 like because there may have been other -- depending
22 on how far back you go, other factors in how we
23 would have needed to meet those requirements that
24 could have provided additional or even more costs
25 upon power customers, and also been not viable for

402

1 project power.

2 Q So the tension that you saw that you were
3 analyzing here with project work is your programs,
4 the programs that you and Fish and Wildlife manage
5 under CVPIA. Is that what you meant by project
6 work?

7 A It would be all of the project purposes so
8 it would have been -- and here I would have been
9 specifically looking at do we have the ability to
10 spread costs over more years under the law as a more
11 palatable way for project power and to benefit
12 project power while still achieving the 30 million
13 on a three-year rolling average basis.

14 Q And the tension you saw between that and
15 the proportionality limitation is had the
16 proportionality limitation been followed, you
17 wouldn't have been able to make the project work?

18 A I did not look at the proportionality
19 provision in this e-mail.

20 Q My question, though, is: Had you, that
21 would have also taken care of these issues, but in
22 your view not make the project work, right?

23 A I would have to speculate. We would have
24 been litigated by our environmental interest in fish
25 and community and potentially power customers -- or,

403

1 sorry -- potentially water customers, so that's a
2 pretty speculative scenario.

3 **Q So back to business as usual. By business**
4 **as usual, you were referring to using the estimates**
5 **that were used for the mid-year adjustments?**

6 A I was referring to the processes we had
7 been working through on how we estimate water
8 deliveries and making the mid-year adjustment.

9 **Q All right. Let's go to Plaintiffs'**

10 **Exhibit 317. This is an e-mail from you to**
11 **Ms. Reiger of May 13th, 2014, at 12:08 a.m.**

12 **Do you see what I'm referring to?**

13 A I see the date and time.

14 **Q All right. And then let's go to PTX 317/2.**
15 **I just want to link up that that's the same e-mail**
16 **that we just looked at at PTX 314.**

17 A Correct.

18 **Q Right? Okay.**

19 **So you say, going back to PTX 317/1, that:**
20 **"This is my proposal for management tomorrow."**

21 **Now, the proposal for management tomorrow,**
22 **let's go to PTX 317/4, is a chart. Take a moment,**
23 **if you would review that chart.**

24 A Okay.

25 **Q And is that chart what you were referring**

404

1 **to as your proposal for management in the e-mail?**

2 A Yes, it is.

3 **Q Back to 317/1. You continue to say: "I**
4 **suspect finance will want the water deliveries to**
5 **represent an actual estimate rather than a fudge**
6 **factor to stabilize collections."**

7 **Finance is whom?**

8 A It would have been our finance division.

9 **Q And you were concerned that they would want**
10 **the water deliveries to represent, your term, an**
11 **actual estimate, right?**

12 A Correct.

13 **Q An actual estimate means the most current**
14 **estimate?**

15 A Probably not the most current. They would
16 want it to be the -- a reasonable estimate of what
17 water receipts would be that is likely to occur in
18 reality.

19 **Q In reality. As of May 13, 2014?**

20 A This is a proposal for the future so dating
21 it to May is not relevant.

22 **Q I see. So, as a general matter, finance**
23 **would prefer actual estimates?**

24 A Correct.

25 **Q Versus, your term, fudge factors?**

405

1 A That was a poor term.

2 **Q Your term is fudge factor, right?**

3 A The term in the e-mail is fudge factor.

4 **Q And the fudge factor referred to your chart**
5 **at 317/4, didn't it?**

6 A Correct. I referred to it as a water
7 adjustment on that chart.

8 **Q Let's turn to the fudge factor chart at**
9 **317/4. Now, on the left-hand side we have the**
10 **fiscal years, correct?**

11 A Correct.

12 **Q At the top you have the various columns**
13 **described, and the one four over is called "Water**
14 **Adjustment." Now, that's your fudge factor column,**
15 **right?**

16 A That's how I would modify the water
17 deliveries.

18 **Q And then you have a series of numbers. The**
19 **first is 12, 10, 0, negative 9 and 0, correct?**

20 A Correct.

21 **Q Now, let's go over three more columns to**
22 **where it has comments, and let's walk through those.**
23 **First you say for 2013: "To start off assume we got**
24 **what we estimated."**

25 **So, in other words, we'll use the real**

406

1 **numbers?**

2 A The actuals.

3 **Q Actuals. It's a better term than numbers.**
4 **We'll call them actuals going forward.**

5 **For 2014: "We stay with the January letter**
6 **that estimated more water than will be delivered."**
7 **Meaning we'll go back to the January letter you**
8 **talked about, right?**

9 A Correct.

10 **Q And your acknowledging that that letter**
11 **estimated more water than you know at that point**
12 **will be delivered, right?**

13 A That was what we knew in January. That was
14 our best estimate in January.

15 **Q I'm talking about May 13, 2014.**

16 A Correct.

17 **Q All right. So the January letter estimated**
18 **more water than you knew, as of May 13, 2014, was**
19 **going to be delivered within the fiscal year, right?**

20 A Correct. More receipts, not necessarily
21 water.

22 **Q Receipts, that's right, correct.**

23 **FY 2015, the error in 2014 results in a**
24 **high collection ceiling for 2015 and potentially**
25 **another high power payment.**

407

1 Are you referring to that 70 million
2 number, roughly, we talked about earlier was your
3 concern?

4 A I don't see the -- yes, \$70 million.

5 Q The 69 million on the left-hand column was
6 your concern. And so because, as you previously
7 testified, that was going to be an unreasonable
8 amount, too, you had to do another water adjustment
9 to bring that number down, too, right?

10 A That was the proposal.

11 Q And so again in '15 we estimate more water
12 than will be delivered, aka water adjustment, right?

13 A Correct.

14 Q That's the water adjustment column that you
15 have there, four over.

16 Now, let's jump to 2017: "With a low
17 collection year, we under estimate water deliveries
18 so that power ends up paying more than we recover
19 the error from 2015."

20 So in 2017 you were going to underestimate
21 water deliveries that year, right?

22 A Correct.

23 Q Which would have the result of
24 overestimating power payments?

25 A Correct.

408

1 Q Did Ms. Bryant give you a response to your
2 fudge factor proposal?

3 MR. OLIVER: Objection. Argumentative.

4 THE COURT: Overruled.

5 THE WITNESS: I did not title this fudge
6 factor proposal, so I don't know where -- how --
7 what level this made it to, but this was not
8 implemented.

9 BY MR. RALSTON:

10 Q We'll turn to that in a moment.

11 You say that this wasn't a fudge factor.

12 What would be an appropriate description of what you
13 proposed to do with the water estimates? Outdated
14 estimates?

15 A Stabilizing the three-year rolling average.

16 Q I'm talking about the estimates.

17 A That would be our three-year rolling
18 average stabilization.

19 Q The estimates you were proposing.

20 Let's go back to your chart at 317/4,
21 column titled "Water Adjustment," which, as you say
22 in the comment line, is where you estimate more
23 water than will be delivered, and the 12 essentially
24 is the water estimate that is going to be
25 overstated, right?

409

1 A Correct.

2 Q An estimate that is intentionally
3 overstated, right?

4 A Correct.

5 Q An estimate that's biased, right?

6 A Correct.

7 Q An estimate that at that point was
8 outdated?

9 A Incorrect.

10 Q How so?

11 A These would be for the purposes of
12 stabilizing the three-year rolling average so they
13 would not have a specific date attached to them.

14 Q I see. So the use of a biased or
15 intentionally overstated estimate was okay as long
16 as you're using it for future projections?

17 MR. OLIVER: Objection. Argumentative.

18 THE COURT: Overruled.

19 THE WITNESS: So that had nothing to do
20 with whether we're using it for future estimates or
21 not. It had to do with whether there would be an
22 interest in stabilizing the three-year rolling
23 average.

24 BY MR. RALSTON:

25 Q Which was your interest, right?

410

1 A At the time I understood it to also be
2 power's interest. For me, I was interested to the
3 extent that it would help make better conditions for
4 power.

5 Q Well, power wanted you to follow a
6 proportionality limitation, didn't they, Doctor?

7 A That was one of the comments that power had
8 on the restoration fund.

9 Q And you never followed that, did you?

10 MR. OLIVER: Objection. Argumentative.

11 THE COURT: Overruled.

12 THE WITNESS: We believed we implemented
13 proportionality to the greatest degree practicable.

14 BY MR. RALSTON:

15 Q Did you ever follow the proportionality
16 limitation that power asked you to follow?

17 MR. OLIVER: Objection. Argumentative.

18 Calls for a legal conclusion.

19 THE COURT: Overruled.

20 THE WITNESS: We believe we implemented
21 proportionality to the greatest degree practicable.

22 BY MR. RALSTON:

23 Q Sir, I asked you did you ever follow the
24 proportionality limitation that CVP power asked you
25 to follow?

411

1 MR. OLIVER: Asked and answered.
 2 THE COURT: Overruled.
 3 THE WITNESS: We did not follow power's
 4 interpretation of that provision of the CVPIA.
 5 BY MR. RALSTON:
 6 BY MR. RALSTON:
 7 Q Thank you.
 8 Let me turn briefly to your chart. The
 9 \$12 million overstatement in your water adjustment
 10 for 2014 would mean that you would have a shortfall
 11 from power collections in 2014, correct?
 12 A Correct.
 13 Q And the result would be is you would be
 14 short of the 53 million that was the piece for that
 15 year the \$90 million requirement, correct?
 16 A Correct.
 17 Q So you were intentionally proposing not to
 18 get to that piece of the \$90 million requirement,
 19 correct?
 20 A Not in that particular year.
 21 Q Let's turn just briefly to 317, first page.
 22 The "Re" line talks about a draft that has an Excel
 23 spreadsheet number in the upper right-hand corner,
 24 20140512.xlsx. Do you see where I'm reading? First
 25 page.

412

1 Does that number, the 20140512.xlsx, refer
 2 to your chart? Is that the Excel spreadsheet?
 3 A I believe it does.
 4 Q Plaintiffs' Exhibit 318. I just want to
 5 confirm that this is the same copy of the e-mail we
 6 just read that was part of the group e-mail a moment
 7 ago, correct?
 8 A Which e-mail a moment ago?
 9 Q We went through Plaintiffs' Exhibit 318
 10 that had the chart, and 319 provides that -- where
 11 you say: "Attached is my proposal." I'm sorry.
 12 315. Second page.
 13 A Yes, that's the same e-mail chain.
 14 Q Let's turn then to Plaintiffs' Exhibit 319.
 15 And this is an e-mail from you to Regina Reiger of
 16 May 13, 2014, at 4:35 p.m. Agreed?
 17 A I agree.
 18 Q Take a moment to read through that.
 19 A Okay.
 20 Q Now, your e-mail comes in response to an
 21 e-mail from Ms. Reiger just below that where she
 22 talks about how you might consider moving the
 23 shortfall into 2016. It's right beneath there, the
 24 e-mail of 8:45 a.m. also May 13th.
 25 Right?

413

1 A Correct.
 2 Q And your response is in your e-mail, second
 3 sentence: - first sentence says: I think that's
 4 what I'm trying to do, meaning what she's talking to
 5 you about, but I'm just doing it with receipts
 6 controlled by the MP Region via how we estimate
 7 water deliveries.
 8 You see where I'm referring to?
 9 A Yes, I do.
 10 Q Versus the ceiling controlled by the D.C.
 11 Budget Office via mysterious arcana.
 12 Correct?
 13 A Correct.
 14 Q So your proposal was to try to accomplish
 15 this moving of the shortfall into 2016 by doing it
 16 through water delivery estimates, right?
 17 A Correct.
 18 Q Rather than going to Washington and having
 19 the \$53 million ceiling number changed, right?
 20 A Correct. We did not believe we could get
 21 that ceiling changed.
 22 Q And then you explain what would happen with
 23 the receipts in '14, '15 and '16, and let's just run
 24 through that briefly.
 25 In 2014 you would get \$41, presumably 41

414

1 million, right?
 2 A Correct.
 3 Q Rather than the 53 million we talked about
 4 in the mid-year adjustment letter and other letters,
 5 right?
 6 A Correct.
 7 Q Program fails to collect the 12 million,
 8 which is the 12 million referred to in your chart?
 9 A Correct.
 10 Q And 2015 will fail to collect 10 million,
 11 right?
 12 A Correct.
 13 Q And then in 2016, it will be approximately
 14 a \$2 million difference, but indexing will fix that.
 15 Plaintiffs' Exhibit 322. Take a moment to
 16 review that.
 17 A Okay.
 18 Q Now, this is an e-mail -- I'm sorry --
 19 memorandum to the assistant regional director. And
 20 who was the assistant regional director at that
 21 time?
 22 A That would have been Brenda Bryant.
 23 Q The Brenda Bryant who was on the e-mail
 24 chains we just reviewed in these last couple of
 25 e-mails, right?

415

1 A Correct.
 2 Q And the regional director at that time was
 3 Mr. Murillo, right?
 4 A Yes.
 5 Q So Ms. Bryant worked, is it fair to say,
 6 directly for Mr. Murillo?
 7 A I believe she was Mr. Murillo's direct
 8 report.
 9 Q Going down to the first paragraph, you say:
 10 "Modifying the determination of water
 11 collections when assessing mitigation payments would
 12 reduce the high charges to power during drought and
 13 stabilize long-term collections."
 14 Now, you give the background in the next
 15 section. You note that the CVPIA requires, in the
 16 first paragraph, collections of 53 million in 2014
 17 for the restoration fund.
 18 Do you see what I'm referring to?
 19 A Yes, I do.
 20 Q So you say there the CVPIA requires that
 21 collection, don't you?
 22 A Yes, I do.
 23 Q And that's how you understood it, didn't
 24 you, that it requires that collection?
 25 A Yes, I did.

416

1 Q And that has been essentially the position
 2 of Reclamation, that it requires that collection?
 3 A Yes, it has been.
 4 Q Now, CVP power said it didn't require that
 5 collection, but that was CVP power, right?
 6 A That was CVP power's perspective.
 7 Q And you note that the mid-year adjustment
 8 resulted in collections from water of less than 8
 9 million and now would require a power payment of 45
 10 million.
 11 And then you discuss in the next paragraph
 12 about CVP power exceeding the cost to acquire the
 13 same amount of power in the market in 2009 and 2012
 14 and again in '14.
 15 Do you see where I'm referring to?
 16 A We anticipated it would exceed it again in
 17 2014.
 18 Q And this is the matter we discussed back at
 19 Exhibit 421, the chart that you had brought to the
 20 deposition that showed that issue, isn't it?
 21 A Correct, but this did not account for
 22 peaking operations.
 23 Q I see. But this overall issue is one that
 24 was of concern to you and Reclamation, correct?
 25 A It was a concern to Reclamation.

417

1 Q Was it not also a concern to you?
 2 A I was assigned the task of figuring out if
 3 there was a way to address those. I was assigned
 4 that concern.
 5 Q Now, if you'll go down to the part entitled
 6 "Discussion." You talk about, in the first
 7 paragraph, about how the administrators for the
 8 service and Reclamation prepare to reduce funding to
 9 41 million and can accommodate a \$12 million
 10 shortfall.
 11 The CVPIA administrators for Reclamation
 12 was you, right?
 13 A There's only one, and that was me at the
 14 time.
 15 Q So you're saying you're prepared to reduce
 16 your programs to that and accommodate this
 17 \$12 million shortfall, correct?
 18 A That line also includes the U.S. Fish and
 19 Wildlife Service.
 20 Q And so had you talked to them about this
 21 water adjustment issue as well?
 22 A I had not talked to them about water
 23 adjustments.
 24 Q You had not. You had not shared that with
 25 them?

418

1 A No, I had not, not to my knowledge.
 2 Q Then you talk about the solicitor, and you
 3 go through your analysis of the \$12 million
 4 shortfall.
 5 And then at PTX 322/3, there's a chart.
 6 Let's blow this chart up a bit.
 7 Do you recognize this chart?
 8 A Yes, I do.
 9 Q And is this a more I'll call it mature
 10 version of the chart we looked at a few moments ago?
 11 A It appears to be.
 12 Q And was this chart attached to your
 13 information briefing memorandum to Ms. Bryant?
 14 A It appears to have been.
 15 Q Did you then meet with Ms. Bryant
 16 concerning this chart and this proposal?
 17 A I'm not actually sure whether we sat down
 18 and met. I think we may have, but I'm not -- I
 19 don't remember that meeting occurring.
 20 Q Was -- whatever recollection you have, was
 21 anyone at that meeting?
 22 A I don't know how I would answer that.
 23 Q Did you discuss this proposal subsequently
 24 with Mr. Murillo?
 25 A I don't recall ever discussing it with

419

1 Mr. Murillo.

2 **Q Let's go back to PTX 322/2. And in the**
3 **second paragraph you talk about how a \$45 million**
4 **annual assessment to power is not a reasonable way**
5 **to administer the CVP.**

6 **Again, repeating what you had written**
7 **earlier, correct?**

8 A Correct.

9 **Q And the same as to back-to-back \$34 million**
10 **power assessments are not a reasonable way to**
11 **administer the CVP, correct?**

12 A Correct.

13 **Q As we talked about the \$45 million was the**
14 **number that, per your letter from Washington, you**
15 **had to get that year, correct?**

16 A That was the ceiling.

17 **Q And that number was not a reasonable way to**
18 **administer the CVP, correct?**

19 A When combined with our current practices
20 for the mid-year adjustment, the overages and
21 shortfalls, I thought there was a more reasonable
22 way.

23 **Q Now, right above there you say in the first**
24 **paragraph: "Reclamation influences the distribution**
25 **of payments from year to year through the estimate**

420

1 **of water deliveries in determining power payments."**

2 **What did you mean by that?**

3 A That means every year we make an estimate
4 of what we think the water deliveries would or
5 wouldn't be, and every year the reality, the actual
6 water deliveries are different than those estimates,
7 so the method we use to make those estimates can
8 change what the difference is between actual and the
9 estimates, when we get to reconciling it and we know
10 what actually occurred.

11 **Q So, in other words, you can, by changing**
12 **the estimates of water deliveries, influence power**
13 **payments?**

14 A Not overall, but we can change power
15 payments from one year to another. So we can spread
16 them a little differently, but they collect the same
17 amount in aggregate.

18 **Q You say in the next -- the very last**
19 **sentence: "The difference between receipts and the**
20 **collection ceiling becomes part of the three-year**
21 **rolling average in subsequent years and changes the**
22 **ceiling in future years."**

23 **Right?**

24 A Correct.

25 **Q That's what you're referring to?**

421

1 A Correct.

2 **Q So you can use these fudging of the**
3 **estimates of water deliveries to move the receipts**
4 **into a later year and change the later year results?**

5 A I would take issue with the fudging, but
6 how we do water deliveries changes what revenue we
7 get from power customers, and that changes the
8 actual receipts that results in a different number
9 in later years.

10 **Q But as to the current year, you were going**
11 **to be \$12 million short, right?**

12 A Correct.

13 **Q There's nothing that would change that?**

14 A The 12 million shortage in the current
15 year?

16 **Q Yes.**

17 A We could change that through our mid-year
18 adjustment letter.

19 **Q Yeah, but if you were 12 million short, as**
20 **you proposed to become, in FY 2014, that was fixed,**
21 **over, done, for 2014?**

22 A Right. We would have to adjust to -- when
23 we received those revenues in the future year, those
24 expenditures would occur in a future year rather
25 than in 2014.

422

1 **Q The receipts were \$12 million short and**
2 **that in 2014 would be permanent, wouldn't it?**

3 A It's not permanent. We get those receipts
4 in a subsequent year.

5 **Q But you'd never get them again in FY 2014,**
6 **would you?**

7 A I don't see how. No.

8 **Q Let's go to "Recommendation." First**
9 **paragraph you state:**

10 **"Reclamation should rescind the April**
11 **mid-year adjustment and collect according to the**
12 **January estimate."**

13 **So your proposal has now become a**
14 **recommendation to the assistant regional director,**
15 **correct?**

16 A Correct.

17 **Q And ultimately your recommendation was**
18 **adopted, wasn't it?**

19 A Only the rescinding, and I don't know if it
20 was my recommendation.

21 **Q You next say: "Reclamation should modify**
22 **the procedures for estimating water deliveries as**
23 **shown in Attachment 1 to bias estimates of water**
24 **deliveries upward in 2015, and bias estimates of**
25 **water deliveries downward in a subsequent year, to**

423

1 reduce payments during the drought and even out
2 payments over time."

3 Do you see what I'm referring to?

4 A Yes, I do.

5 Q So you like the term "bias estimates"
6 better, hmm?

7 A I don't like that term. I like the water
8 adjustments over the three-year stabilization.

9 Q They all mean the same, don't they?

10 A I'm not a legal expert.

11 Q We're not asking you to be a legal expert
12 at all, sir. We're asking you what you meant?

13 A I meant change how we estimate water
14 deliveries in order to stabilize the three-year
15 rolling average.

16 Q The water adjustments were biasing the
17 estimates, weren't they?

18 A Yes, they were.

19 Q They were using data that was not then
20 current, weren't they?

21 A It would have been the current data for how
22 to stabilize a three-year rolling average.

23 Q They were not the current data from
24 January of 2014, were they?

25 A It would have relied upon the current

424

1 hydrologic estimates in order to know how much we
2 would need to bias up or down.

3 Q The data was not current in April of 2014,
4 was it, sir?

5 A Are you still referring to the bias
6 estimate?

7 Q Yes.

8 A Then it would have had to use the current
9 data.

10 Q It was not the current data, was it?

11 A It would have had to use the current data.

12 Q The bias estimates were not current data,
13 were they?

14 A The bias estimates would have had to use
15 the current data.

16 Q How so?

17 A I wouldn't know what bias to use if I
18 wasn't using the current data.

19 Q So that's why you proposed to go back to
20 the January letter, isn't it?

21 A That's different than the bias estimate
22 proposal.

23 Q It's different. Doesn't it say -- let's go
24 right to it.

25 I see. Your point is going back to the

425

1 January letter was not using biased water delivery
2 estimates?

3 A Correct.

4 Q It's only in the future you're going to use
5 the biased ones?

6 A The future -- well, we never implemented
7 those. It was not found to be appropriate.

8 Q We'll get to that in a moment.

9 So you're saying that going back to the
10 January letter did not result in implementation of
11 your proposal?

12 A Which part of the proposal?

13 Q Going back to the January estimate.

14 A We did go back to the January estimate.

15 Q You did. As you recommended, right?

16 A Correct.

17 Q Let's go to your chart, Attachment 1. And,
18 again, let's start at the top by going through the
19 descriptions of the columns. At the top in the
20 column four over we have "Water Delivery Adjustment
21 Inflated." And next we have "Water Delivery
22 Adjustment Deflated."

23 So your water delivery adjustment is your
24 biasing of the water estimates, correct?

25 A Correct.

426

1 Q And the result is in FY 2014 a \$12 million
2 impact in current dollars, and in FY 2015 a
3 \$10 million adjustment, correct?

4 A Correct.

5 Q And the next column over shows the 1992
6 dollars, right?

7 A Correct.

8 Q And then the seventh column over:
9 "Simulated Receipts Cumulative Deflated." And that
10 shows where you stand.

11 Let's go down to 2015 and the \$84,124,000,
12 highlight that. And that represents a \$5,800,000
13 shortage from the \$90 million ceiling, doesn't it?

14 A Correct.

15 Q And that number is shown in column five,
16 the "Water Delivery Adjustment Deflated," that
17 5.876 million.

18 And so the result of your proposal for FY
19 2013, '14 and '15 is that, if it were adopted in
20 2015 using 1992 dollars, you would be short of the
21 "\$90 million requirement," quote, unquote, by
22 \$5.8 million, correct?

23 A I don't believe so.

24 Q Why not?

25 A I believe there would have been a shortfall

427

1 letter.

2 **Q Putting that aside, I'm looking at your**
3 **proposal here. Your proposal indicated that there**
4 **would be a \$5.8 million difference, right?**

5 A For the purpose of estimating the 2015,
6 there would have been a \$5 million difference.
7 However, we would have received additional funding
8 as a result of the shortfall that would have made up
9 the difference.

10 **Q You can go to your footnotes at the bottom,**
11 **if it you like. Is that discussed in any part of**
12 **the chart?**

13 A No. This chart was focused on the
14 collections for that year.

15 **Q Thank you.**

16 **Let's go to your comment side. And your**
17 **comments largely reflect your prior chart, but let's**
18 **look at 2014.**

19 **"We stay with the January letter that**
20 **estimated more water than will be delivered."**

21 **And that was what your proposal was,**
22 **correct?**

23 A Correct.

24 **Q But as you just testified, you don't**
25 **consider that to be biasing the data?**

428

1 A I do not.

2 **Q Even though you're going to use the letter**
3 **that you acknowledged was estimating more water than**
4 **will be delivered, right?**

5 A We would not be updating.

6 **Q So let's understand. How would you**
7 **describe that, the use of water estimates that are**
8 **more than will be delivered?**

9 A So we could -- if we wanted to be as
10 precise as possible in our estimates of water
11 delivery, we could update all the way up through
12 September. And at a certain point we decide that
13 for the purposes of administering the program and
14 collections, our estimates are good enough, and so
15 stopping our process of updating estimates in
16 January versus stopping our estimates updating in
17 April changes how many times -- how close we get to
18 the actual numbers and how many times we adjust the
19 allocation to power.

20 **Q Let me pose my question again.**

21 **You proposed staying with the January**
22 **letter that estimated more water than will be**
23 **delivered. So you were saying there that you'd go**
24 **with the letter that was going to be based on water**
25 **deliveries more than you knew in May of 2014 would**

429

1 **be delivered, correct?**

2 A Correct.

3 **Q How would you describe what that**
4 **represented, the use of overstated data?**

5 A I don't see that as any different than
6 stopping our estimates in April as opposed to
7 issuing another update in May or another update in
8 June, July, et cetera.

9 **Q Let's turn to your biasing of the future**
10 **water estimates that you proposed for 2015, right?**
11 **And 2017 in your chart, right?**

12 A Okay.

13 **Q You agree with me? I want to make sure I'm**
14 **using your terms right. The biasing of water**
15 **estimates?**

16 A I refer to it as a water delivery
17 adjustment.

18 **Q Water deliver adjustment. You're proposing**
19 **that in 2015 and 2017, right?**

20 A Correct.

21 **Q Now, you're a hydrologist?**

22 A No, I'm not.

23 **Q You studied water in college and in your**
24 **graduate degrees or not?**

25 A I did.

430

1 **Q You did. You studied the management of**
2 **water during that time, didn't you?**

3 A I primarily studied the physics and
4 engineering aspects.

5 **Q Physics and engineering aspects of the**
6 **management of water?**

7 A Physics and management of rivers.

8 **Q Of rivers, all right. Physics and**
9 **management of rivers.**

10 **Well, when you were studying on your**
11 **physics and management of rivers, was biasing of**
12 **water data one of the disciplines?**

13 A It was not.

14 **Q Was the biasing of water data part of**
15 **becoming a professional engineer?**

16 A This proposal was not part of my formal
17 education.

18 **Q Do you use biasing of water data in other**
19 **aspects of your job?**

20 A Yes, we do.

21 **Q You do. And what are those?**

22 A For example, when we project the level of
23 flood conservation space required, when we project
24 the stresses on facilities, we frequently choose
25 estimates that are more conservative or less

431

1 conservative depending on what side we want to error
2 on.

3 **Q So biasing of water estimates is a routine**
4 **part of what you do?**

5 A It is not a routine part of what I do.

6 **Q When do you use biased water estimates?**

7 A We would -- if we're estimating what level
8 of flood protection, this is not part of my routine
9 job, but we would use estimates that are -- there's
10 uncertainty in quite a bit of our actions and so we
11 have to pick what -- you know, we're going to be
12 wrong and we won't get things exactly, so we pick
13 what side we want to error upon.

14 **Q Did any of your testimony today rely upon**
15 **biased data?**

16 A Not that I'm aware of.

17 THE COURT: Mr. Ralston, shall we take a
18 break?

19 MR. RALSTON: Yes, Your Honor.

20 THE COURT: We'll reconvene at 3:15.

21 (Recess taken from 2:59 to 3:15).

22 THE CLERK: All rise. The court is again
23 in session.

24 THE COURT: Thank you. You may be seated.
25 Go ahead.

432

1 BY MR. RALSTON:

2 **Q Dr. Mooney, returning to Exhibit 322, page**
3 **1, in the third paragraph at the last sentence you**
4 **indicate that:**

5 "Reclamation is working with power to
6 develop a long-term approach to collections as an
7 alternative to legislative remedies that may impose
8 more strict conditions."

9 Do you see where I'm referring to?

10 A Yes, I do.

11 **Q Why were you concerned about legislative**
12 **remedies that might impose more strict conditions?**

13 A Because of the need to implement the
14 required Fish and Wildlife provisions of the CVPIA.

15 **Q Well, why wasn't the response: This is**
16 **what the law requires; CVPIA requires the collection**
17 **of 45 million from power in 2014?**

18 A That would be poor customer service if we
19 thought there was flexibility.

20 **Q There would be flexibility.**

21 But the law according to Reclamation
22 required the number. Why wouldn't Congress just
23 respond do what the law says?

24 MR. OLIVER: Objection. Calls for
25 speculation.

433

1 THE COURT: Overruled. I'll take his
2 answer.

3 THE WITNESS: Power had made several
4 attempts to modify the CVPIA. None had been
5 successful.

6 BY MR. RALSTON:

7 **Q When you were concerned that they might be**
8 **successful?**

9 A We thought that they might be successful.

10 **Q And you had a flexible remedy to be able to**
11 **avoid that outcome?**

12 A We thought the three-year rolling average
13 would be a -- if we could modify within the
14 three-year rolling average, we thought that could be
15 a better way to administer the restoration fund.

16 **Q Wasn't it rather odd for you to be putting**
17 **out different delivery estimates intentionally?**

18 A I don't believe so.

19 **Q Well, let's go to your transcript of your**
20 **deposition at page 249, lines 2 to 3. Let's go back**
21 **to the prior page. Start at the bottom of the page,**
22 **and then we'll go to 249:**

23 "Why would you not be ready to go there yet
24 if you thought it was perfectly appropriate?"

25 And you answered: "It would be odd for us

434

1 to put out different delivery estimates
2 intentionally."

3 Right?

4 A It would be a departure from our current
5 practices.

6 **Q Let's go back to the chart at 322/3. And**
7 **for 2015, as we discussed, you envisioned a biasing**
8 **-- I'm sorry -- to use your term, water adjustment**
9 **of \$10 million, correct?**

10 A Correct.

11 **Q How did you envision accomplishing that**
12 **water adjustment in FY 2015?**

13 A I hadn't had a mechanism yet, but when we
14 were -- my vision was that when we were putting out
15 that same letter that you had me walk through, the
16 estimates of water deliveries, the dollar amounts
17 would be greater.

18 **Q Well, it would have had to have been done**
19 **in the mid-year adjustment letter, right?**

20 A Not in 2015.

21 **Q How would you have gotten a \$10 million**
22 **bias incorporated?**

23 A It would have been reflected in the initial
24 allocation as well as in the mid-year adjustment.

25 **Q So you would have used it in the initial**

435

1 allocation and the mid-year adjustment?

2 A I'd have to speculate on exactly where we
3 would put it.

4 Q You envisioned accomplishing it in one of
5 those steps in 2015?

6 A Correct.

7 Q So it could have been issued in the
8 mid-year adjustment and then rescinding it, as had
9 been done in 2014, for example, yes?

10 A If we were going to intentionally use water
11 delivery to stabilize the three-year rolling
12 average, ideally, we would do that without the
13 rescinding step.

14 Q So you would just not issue the mid-year
15 adjustment letter, for example?

16 A Or we could -- that could be one example.

17 Q And the numbers in your chart after the
18 mid-year adjustment -- I'm sorry -- after your water
19 adjustment would have resulted in charges to power
20 that you thought were reasonable for 2014 and 2015?

21 A I thought it would have spread the cost and
22 been more reasonable.

23 Q All right. My last question on this chart
24 is footnote 3. Does that accurately describe what
25 your water delivery adjustment would be doing?

436

1 A Yes, it does.

2 Q We talked a moment ago before the break
3 about using the most current data available, and you
4 said that in your biasing approach you did want to
5 have the most current data. Do you remember that
6 testimony?

7 A Yes, I do.

8 Q And by having the most current data,
9 meaning you wanted to know what the most current
10 data was so you could bias it the way you cared to
11 do so?

12 A Correct.

13 Q And, thus, the biasing would accomplish
14 what you wanted it to bias?

15 A The bias would get us closer to a
16 stabilized payment within the three-year rolling
17 average.

18 Q Let's go to Plaintiffs' Exhibit 324. This
19 is an e-mail from you to Ms. Bryant of May 14, 2014,
20 at 6:00 p.m., and the title of the e-mail is:
21 "CVPIA 2014 Mid-Year Rescinding." And it references
22 a letter as an attachment from Autumn Wolfe as
23 noted.

24 Why don't you take a moment and review that
25 document.

437

1 A Just the e-mail or the attachment, too?

2 Q Both, please.

3 A Do you have the attachment? Thank you.

4 Q It's at --

5 A It's there now.

6 Q And then there's a fourth page or fifth
7 page to the document as well that they will scan for
8 you.

9 A Okay.

10 Q All right? So let's first go over the
11 basics of the document.

12 You say: Brenda, as we discussed
13 yesterday, attached is a draft letter to start as a
14 working point through a drought plan for power.

15 And the draft letter is the one at PTX
16 324/3?

17 A I believe so.

18 Q All right. And at PTX 324/5 is another
19 copy of your chart?

20 A Yes.

21 Q And that chart was an attachment to the
22 letter, the draft letter to Ms. Anderson, right?

23 A It looks like it was.

24 Q So the letter and the chart were presented
25 to Ms. Bryant by virtue of this e-mail, correct?

438

1 A Correct.

2 Q And it says in paragraph two: "I think
3 Gail is still checking to make sure I'm doing the
4 numbers right."

5 Gail, again, is Ms. Gail Trujillo-Bixby?

6 A Yes.

7 Q You say: "Yesterday we weren't sure the
8 program would be made whole eventually."

9 Who are you referring to there as to the
10 "we"?

11 A I'm not sure. I know it would have
12 included Gail.

13 Q It would have included Gail?

14 A Yes.

15 Q And if you'll go down to the next e-mail
16 which is the on of May 13, 2014, of 11:06 p.m.,
17 second paragraph. Again, this is to Brenda. I
18 assume Brenda Bryant, correct?

19 A Correct.

20 Q In the second paragraph you say:
21 "I know we have concerns about changing the
22 way we estimate water deliveries."

23 What were those concerns?

24 A I believe the primary concern is that we
25 had been through a number of exercises with our

439

1 power customers to come out with the current way
2 that we were estimating water deliveries, and so
3 then to now have to go through another series of
4 exercises to explain the new way would be a lot more
5 work.

6 **Q The fact that they might be perceived as**
7 **inaccurate estimates was not a concern to you?**

8 A I was concerned that we fully articulate
9 why we're doing this and that everybody understood
10 what those numbers meant.

11 **Q Then you say in the next sentence that:**

12 **While we should try to be consistent in our**
13 **administrative procedures, real world impacts should**
14 **outweigh those concerns.**

15 **So you were suggesting that sacrificing**
16 **administrative procedures was a necessary price to**
17 **pay to deal with real world impacts?**

18 A No.

19 **Q What were you saying?**

20 A I'm saying that we need to be open to
21 modifying our procedures where we see a need to do
22 something differently in order to get better
23 performance.

24 **Q And then in the next sentence -- next**
25 **paragraph you say:**

440

1 **"We will be in a better place to negotiate**
2 **a long-term way to address the concerns raised by**
3 **power if we make this adjustment. I believe that**
4 **assessing the highest collections in history is**
5 **asking for a legislative solution that will be**
6 **harsher than the one we can work out in discussions.**
7 **A strict legislative remedy such as the one**
8 **currently proposed by power will result in greater**
9 **harm to the CVPIA than a delay in funding or even a**
10 **one-time reduction in collections."**

11 **That's what you said, correct?**

12 A Correct.

13 **Q So you were thinking that this proposal**
14 **would enhance your negotiation position?**

15 A This proposal would remove one of the
16 concerns or could minimize or reduce one of the
17 concerns that power has with the CVPIA collection.

18 **Q To quote you: "We will be in a better**
19 **place to negotiate a long-term way to address the**
20 **concerns raised by power." Correct?**

21 A Correct.

22 **Q So it would put you in a better place to**
23 **negotiate if you used this, correct?**

24 A Correct. We would have removed one of
25 their concerns, and we would have shown ourselves to

441

1 be responsive to their interests.

2 **Q And would avoid the profile of a**
3 **\$45 million mid-year adjustment in the legislative**
4 **discussions, right?**

5 A Correct.

6 **Q You say in the next sentence -- or next**
7 **paragraph you are very nervous about your programs.**
8 **Why was that?**

9 A We were concerned about the payments to
10 power and what types of reductions might be imposed
11 to try to correct those concerns, and we wanted to
12 make sure that everything was done with all the
13 information at the fingertips, and that we would
14 still be able to fulfill our responsibilities under
15 the Act to implement those programs.

16 **Q And you were concerned that unless you did**
17 **this proposal those adverse results might occur?**

18 A I don't think it was -- this proposal was
19 the sole objective of it. It was one piece in what
20 we hoped would be ongoing discussions with power and
21 the other CVPIA stakeholders, so it would have been
22 one concern.

23 **Q So your water adjustment proposal was a**
24 **piece in an effort to protect your programs?**

25 A It was not a -- in the end, it was not a

442

1 piece. It was not found to be a viable way forward.
2 It was one of the many brainstorming exercises we
3 had to try to adjust -- to try to meet some of
4 power's concerns.

5 **Q You were proposing it as a piece, correct?**

6 A I proposed it as a piece.

7 **Q Now, you sent this to Ms. Bryant. Did she**
8 **respond to you?**

9 A I don't recall.

10 **Q Well, this is May 14th. The mid-year**
11 **adjustment occurs on May 20th of the same year,**
12 **2014, right?**

13 A Right. She probably would have. I don't
14 recall the specifics. I'd have to look at e-mails.

15 **Q Do you recall discussing it with her?**

16 A This particular proposal?

17 **Q Uh-huh.**

18 A I don't know if I ever discussed it with
19 her anymore. I was not extremely vested in this
20 proposal.

21 **Q Well, wait a minute. You spent a lot of**
22 **time working on this. What do you mean you weren't**
23 **invested in it?**

24 A I was told to come up with ways that we
25 might be able to reduce some of power's concerns.

443

1 This was one of the proposals that we thought might
2 have been within the bounds of our discretion.

3 **Q And the mid-year adjustment letter was**
4 **rescinded, wasn't it?**

5 A Yes, it was.

6 **Q Just as you recommended, right?**

7 A I'm getting confused now as to when you're
8 talking about the rescission of the letter versus
9 when you're talking about the water adjustment
10 factors.

11 **Q I'll be clear. You made a proposal on**
12 **May 14th at 6:00 p.m. that you sent to Ms. Bryant,**
13 **right?**

14 A Correct.

15 **Q And it had with it a draft letter, if you**
16 **go to PTX 324/3, to Ms. Anderson, in which this**
17 **letter rescinds the April 29, 2014 letter from**
18 **Brenda Bryant, right?**

19 A Correct.

20 **Q So you were sending Ms. Bryant a letter,**
21 **draft letter, to rescind the mid-year adjustment,**
22 **right?**

23 A Correct.

24 **Q So you were vested in it, weren't you?**

25 A Was vested in rescinding -- I don't know

444

1 what you mean by vested. Can you clarify?

2 **Q It was your word. What do you mean by**
3 **vested?**

4 A What I mean by vested is whether or not I
5 believed this was the best way forward or necessary
6 versus whether it was just one more option for my
7 management to consider.

8 **Q I see.**

9 A So I believed that rescinding the mid-year
10 letter was one option. That one I did believe was a
11 good step to take.

12 The water adjustment factors, I think that
13 we needed to do something to try to work with power.
14 I was not committed to changing the delivery numbers
15 in terms of being what I would consider vested. So
16 it would be a very challenging proposal to
17 implement.

18 **Q Let's go to 320 -- one moment. 324/3.**
19 **326. And this is a copy of the e-mail we**
20 **just went over to Ms. Bryant, correct?**

21 A Correct.

22 **Q And it was copied to Ms. Wolfe and Gail**
23 **Trujillo-Bixby, correct?**

24 A And Richard Woodley.

25 **Q Let go to 330. This is an e-mail of**

445

1 **May 19, 2014 -- I'm sorry -- a memo to the regional**
2 **director. Again, that's Mr. Murillo?**

3 **Yes?**

4 A Yes, that was Mr. Murillo.

5 **Q And go down to the third paragraph, it**
6 **says: "Reclamation rescinded the mid-year -- 2014**
7 **mid-year adjustment that would have resulted in a**
8 **\$45 million collection from power."**

9 **So you were advising Mr. Murillo of that**
10 **decision? In fact, he had made that decision,**
11 **hadn't he? Mr. Murillo approved the rescission of**
12 **the mid-year adjustment, didn't he?**

13 A It may be delegated.

14 **Q To whom?**

15 A I'm not sure exactly to whom. I'd have to
16 speculate.

17 **Q To Brenda Bryant?**

18 A I believe it's delegated to the finance
19 manager, but I could be wrong.

20 **Q Which would be Autumn Wolfe?**

21 A On May 19th, I believe Autumn -- I'm not
22 sure who was the finance manager at that time.

23 **Q So whether Mr. Murillo did approve it, you**
24 **were telling him it had occurred on May 19th, right?**

25 A Correct.

446

1 **Q And did he respond to you on this?**

2 A I don't recall.

3 **Q You note in the next paragraph that: "NCPA**
4 **is unlikely to participate in further discussions**
5 **with Reclamation staff without intervention by the**
6 **regional director." And you lay out some options**
7 **for the regional director in that.**

8 **Why was Reclamation -- I'm sorry -- NCPA**
9 **unlikely to participate in further discussions with**
10 **you at that point?**

11 A I would have to speculate.

12 **Q What did you mean by that?**

13 A That NCPA had said they were disappointed
14 in past processes and they weren't interested in
15 another process, whereas they didn't see a clear
16 path to relief in their power payment.

17 That's not unusual for our water or power
18 customers to say that and then to also participate
19 in the processes.

20 **Q Let's go briefly to Joint Exhibit 31.**

21 A Is this in my folder, too?

22 **Q Yes, it would be in yours at the front.**

23 A I'm sorry, it sprung open.

24 **Q It's also in front of you on the screen.**

25 A I can fix it later.

447

Q It's also in front of you on the screen.

THE COURT: His binder popped open.

MR. RALSTON: So can we take a brief recess, Your Honor, to correct it?

THE COURT: Let's go ahead. Maybe we'll be able to muddle through.

BY MR. RALSTON:

Q This is the letter of May 20th, 2014, the rescission of the mid-year adjustment, correct?

A Correct.

Q And so let's go and compare it briefly to your draft letter at 324, I believe.

The first paragraph is largely the same, isn't it?

A Without going word-for-word, it appears -- well, there's some shortfall language that's different.

Q All right. And if you will go in your letter, 324/3, second paragraph, next to the last sentence it says:

"Reclamation and Western staff coordinated on changes to accommodate the drought and will return to historical practices upon completion of actions in response to the drought."

Do you see where I'm referring to?

448

A I do.

Q Now, there's no mention in that sentence of CVP power being coordinated with, is there?

A There is not.

Q Nor NCPA, is there?

A There is not.

Q Next is Joint Exhibit 33. This is the October 20th, 2014, so-called true up letter, right? Take a moment to review it.

A Yes.

Q And as shown in the bottom right corner, the result at the end of the year was a shortfall of \$8.5 million, correct?

A Correct.

Q And that resulted -- that shortfall resulted because the mid-year adjustment had been rescinded, correct?

A That is only part of it. There's additional differences between what we thought water deliveries would be versus what water deliveries actually were.

Q Yes. In fact, your proposal had estimated a shortfall of \$12 million, right?

A That was the estimate I used for the proposal.

449

Q The final outcome was 8.5 million?

A Correct.

Q So water collections were somewhat better than you had feared?

A That was better than we had -- there were more water deliveries than we had estimated in our initial mid-year adjustment.

Q But still a significant shortfall that would not have occurred if the mid-year adjustment had not been rescinded?

A Correct.

Q Let's go to Joint Exhibit 35.

THE COURT: On second thought, let's have the plaintiffs' volume put back together so we can use it.

MR. RALSTON: Sure. We have another one, Your Honor, we can provide to the witness.

THE COURT: He's almost got it. Okay. Let's go ahead.

BY MR. RALSTON:

Q Let's go to Joint Exhibit 35.

A Okay.

Q All right. And I don't think you can tell the date on that one?

A I cannot.

450

Q As far as I can tell, it's in October of 2015 on my copy.

So this is the 2015 mid-year adjustment letter, correct? I'm sorry, it's the announcement there won't be one?

A Correct.

Q So the mid-year adjustment in 2015 --

A I don't think you have the date correct, though, on the letter.

Q It's not necessary. We can take care of that separately.

Do you recognize this as being the letter that deferred the mid-year adjustment in 2015?

A I don't know that I was involved in that, but this appears to be the mid-year adjustment letter for 2015.

Q Do you recall that the mid-year adjustment was not implemented in 2015?

A I do not recall.

Q You don't.

Do you recall anything about the mid-year adjustment or an action in 2015?

A I don't recall an action in 2015.

Q Let's go to Joint Exhibit 37. And this is the fiscal year 2015 letter true up.

451

1 **And the outcome for FY 2015 was a shortfall**
2 **of \$9.5 million, correct?**

3 A Correct.

4 **Q And in your chart you had estimated a**
5 **shortfall of \$10 million for FY 2015, right?**

6 A My chart was not an estimate. We had no
7 idea what the subsequent years were. We never
8 implemented those adjustments.

9 **Q Your projection was \$10 million shortfall**
10 **on your chart in FY 2015, correct?**

11 A I don't -- are you talking about the water
12 adjustment factor?

13 **Q Yes, the water adjustment factor.**

14 A It was, I believe, 10 million.

15 **Q For FY 2015, correct?**

16 A Correct.

17 **Q And the actual number was 9.5 million**
18 **shortfall for 2015, right?**

19 A There's a difference between the water
20 adjustment factor and then the shortfall.

21 **Q I'm just talking about the two numbers.**
22 **You had 10 million; they had 9.5 at the end of the**
23 **day, right?**

24 A That's correct.

25 **Q All right. Let's turn to Joint Exhibit 3,**

452

1 **pages 21 to 22. And there you should have on your**
2 **screen in front of you, Doctor, section 3407 of the**
3 **Restoration Act, and I'd like to invite your**
4 **attention to section 3407(c)(1). And if you would**
5 **take a moment to review that.**

6 A Okay.

7 **Q Now, according to the terms of section**
8 **3407(c)(1), the additional annual mitigation and**
9 **restoration payments will consist of charges to,**
10 **quote, "direct beneficiaries of the Central Valley**
11 **Project under subsection (d) of this section,"**
12 **correct?**

13 A Correct.

14 **Q So the mitigation and restoration charges**
15 **are to be imposed to "direct beneficiaries," quote,**
16 **unquote?**

17 MR. OLIVER: Object. Mischaracterizes the
18 statute.

19 BY MR. RALSTON:

20 **Q Does the language of the statute say that**
21 **it consists of charges to direct beneficiaries?**

22 A That's incomplete.

23 **Q Yes, I know, it's only a part of the**
24 **statute. But the purpose of it is direct**
25 **beneficiaries, correct?**

453

1 A Of the CVP under subsection (d).

2 **Q Yes, exactly.**

3 **California water districts with water**
4 **service contracts are direct beneficiaries of the**
5 **CVP?**

6 A I believe so.

7 **Q California water districts with repayment**
8 **contracts are direct beneficiaries of the CVP?**

9 A I believe so.

10 **Q Now, those California water districts**
11 **remain direct beneficiaries of the CVP when they**
12 **receive water from the CVP that is not subject to**
13 **the mitigation and restoration fund charges?**

14 MR. OLIVER: Calls for a legal conclusion.
15 Objection.

16 THE COURT: I'm going to overrule and take
17 his answer.

18 THE WITNESS: I don't believe so.

19 BY MR. RALSTON:

20 **Q Let's go to your transcript at 56, lines 6**
21 **to 17. I'm asking you about Warren Act**
22 **beneficiaries and whether it changes their status,**
23 **and you said it did not.**

24 **Does that refresh your memory?**

25 A Yes, it does.

454

1 **Q All right. With your memory refreshed,**
2 **would you agree that California water districts**
3 **remain direct beneficiaries even when they receive**
4 **water from the CVP that's not subject to mitigation**
5 **and restoration fund charges?**

6 A That's not related to the Warren Act
7 contract.

8 **Q Well, Warren Act is not charged, right?**

9 A Warren Act is not receiving water from the
10 CVP.

11 **Q All right. We'll say that they remain**
12 **direct beneficiaries even when they receive water**
13 **that's not project water.**

14 A The presence or absence of the Warren Act
15 contract does not change who we assess the
16 mitigation and restoration fund charges to.

17 **Q So they remain direct beneficiaries even**
18 **with respect to Warren Act water, right?**

19 A We assess water based on the contracts.

20 **Q I understand. My question is whether they**
21 **remain direct beneficiaries even when they are**
22 **dealing with Warren Act water?**

23 A Warren Act water does not change their
24 contract.

25 **Q It doesn't change their status as direct**

455

1 beneficiaries either, does it?

2 A Correct.

3 Q Now let's go to 3407(d), and specifically
4 (d)(2). Go about three lines down where it talks
5 about the 6 and the 12. We'll highlight that
6 sentence, please.

7 Do you see where we're referring to?

8 A Yes, I do.

9 Q Now, that sentence limits the charge of M&R
10 charges to \$6 for agricultural water sold and
11 delivered and \$12 per acre-foot for municipal and
12 industrial water sold and delivered by the Central
13 Valley Project, correct?

14 A Correct.

15 Q Reclamation contends that only water sold
16 and delivered can be subject to the M&R charges,
17 correct?

18 A That is Reclamation's position.

19 Q So if water is sold in a year but not
20 delivered, it's not subject to M&R charges?

21 A I'm not aware of that type of water so I
22 don't know how we implement that.

23 Q If water is delivered but not sold in a
24 fiscal year, it's not subject to M&R charges, is it?

25 A It is not subject to M&R charges.

456

1 Q And that is because Reclamation limits the
2 M&R charges to water being sold and delivered only?

3 A That is one of the reasons. They are also
4 not a water and power contractor who is a direct
5 beneficiary.

6 Q But if they are a direct beneficiary water
7 power contractor, they wouldn't pay the charge on
8 water unless it were sold and delivered in the
9 fiscal year, would they?

10 A That's correct.

11 Q In this sentence is there any limit on
12 CVPIA water that is simply delivered?

13 A I'm not aware of the term CVPIA water.

14 Q You're familiar with the term project
15 water, aren't you?

16 A Yes, I am.

17 Q In this sentence is there any limit on
18 project water that is only delivered?

19 A I'm not aware of what project water you'd
20 be talking about.

21 Q Is there any such limit on project water
22 that is only delivered?

23 A I don't have an example to know how we
24 implement that.

25 Q Reclamation takes the position that project

457

1 water is limited to water that is, quote, "sold and
2 delivered," correct?

3 A I don't believe that's how Reclamation
4 defines project water.

5 Q You do not, all right.

6 Let's go to your transcript at page 60, 9
7 to 11. Actually, go above that to -- go to the
8 prior page.

9 If you read the very bottom: I invite your
10 attention back to your sold-and-delivered term that
11 you just referred us to. The clause I have just
12 read in part, it does not say, correct me if I'm
13 wrong, that only water sold and delivered is subject
14 to mitigation and restoration charges, does it?

15 It does not say that.

16 Now, the bureau has adopted that
17 interpretation, haven't they?

18 And you said: Yes, they have.

19 Does that refresh your memory?

20 MR. OLIVER: Objection. That's not proper
21 impeachment if he's doing it to refresh
22 recollection.

23 THE COURT: Ask him a question.

24 BY MR. RALSTON:

25 Q You're correct, Your Honor. My apologies.

458

1 Is your memory now refreshed?

2 A Yes.

3 Q And would you agree that Reclamation's
4 position is that project water is limited to water,
5 quote, "sold and delivered"?

6 A When we implement, we interpret the sum of
7 that provision to be applicable to project water.
8 We don't know how we could get to mitigation and
9 restoration payment without it being project water.

10 Q And, therefore, it has to be limited to
11 sold and delivered, correct?

12 A It would be -- has to get to project water
13 first, and it must be sold and delivered as part of
14 that project water.

15 Q And that is an administrative
16 interpretation that Reclamation has adopted, right?

17 A We believe that that's the proper
18 interpretation of the statute.

19 Q That's why Reclamation has adopted that?

20 A Yes.

21 Q No one else has; just Reclamation? I'm
22 just asking if Reclamation has adopted that.

23 MR. OLIVER: Well, the question was whether
24 or not anyone else has adopted that, and that calls
25 for speculation.

459

1 MR. RALSTON: I'll withdraw it, Your Honor.

2 THE COURT: Okay.

3 BY MR. RALSTON:

4 **Q Warren Act water, base supply water under**
5 **the Sacramento River settlement contracts, exchange**
6 **water and project water supply without charge are**
7 **not subject to the mitigation and restoration fund**
8 **charge, are they?**

9 A That's correct.

10 **Q Let's go to Plaintiffs' Exhibit 353/2.**

11 **That's actually on the first page so we can identify**
12 **this for you.**

13 **This is a memorandum/information briefing**
14 **for the commissioner from you, September 30th, 2014.**
15 **The definition would be the Commissioner of the**
16 **Bureau of Reclamation?**

17 A Correct.

18 **Q And it's from you as Program Manager**
19 **Mid-Pacific Region, correct?**

20 A CVPIA Program Manager.

21 **Q All right. And in this document you talk**
22 **about the various issues of M&R charges and NCPA's**
23 **position on power collections. And on page two, so**
24 **it's 353/2, you discuss equitability between water**
25 **and power as the primary issue. And you say:**

460

1 **"Reclamation could explore options for the**
2 **use of CVP facilities that do not pay the M&R**
3 **charge." And you include Warren Act transfers,**
4 **rescheduled water, settlement contract deliveries,**
5 **holding contract deliveries, and exchange contract**
6 **deliveries.**

7 **Do you see where I'm referring to in the**
8 **next sentence?**

9 A Yes, I do.

10 **Q So let's explore that. If equitability**
11 **between water and power is the primary issue,**
12 **meaning if treating water and power users of the**
13 **CVPIA equally is the primary issue; is that what you**
14 **meant by that?**

15 A No, it is not.

16 **Q What did you mean?**

17 A So power raised the proportionality
18 argument first as a question of equitability.

19 **Q First? What do you mean "first"?**

20 A There were a number of concerns power had
21 with how we administered the CVPIA, and one of those
22 at the time was proportionality and it was raised as
23 a matter of equitability. It eventually became just
24 an issue of reducing power payments to maintain the
25 project power function of the CVP.

461

1 **Q Well, in terms of equitability what they**
2 **were discussing is the proportionality limitation,**
3 **correct?**

4 A Both of the arguments were framed around
5 the proportionality provision.

6 **Q Which links their M&R payments to their**
7 **repayment allocation, right?**

8 A Only under to the greatest degree
9 practicable.

10 **Q Yes, but the proposal -- the provision**
11 **links the two of those from an equitable standpoint,**
12 **correct?**

13 A There is no discussion of equitability in
14 the CVPIA.

15 **Q No, it's your term. You were saying if**
16 **equitability between them is the primary issue,**
17 **right?**

18 A It was not my term.

19 **Q I'm sorry, let's go back to the first page**
20 **of the memo.**

21 **Isn't the memo from you?**

22 A I was characterizing power's argument.

23 **Q I see. Let's go to the second page of the**
24 **memo. Where do you say that that's characterizing**
25 **their argument?**

462

1 A I did not spell it out, but I did -- if you
2 read -- if equitability between water and power is
3 the primary issue, I was referring to if it was a
4 primary issue for power.

5 **Q And then you identified what you described**
6 **as options for charging the use of facilities that**
7 **do not pay the M&R charge, and you list them,**
8 **correct?**

9 A Correct.

10 **Q Warren Act water isn't subject to CVPIA**
11 **charges, is it?**

12 A It is not.

13 **Q And subjecting it to the mitigation and**
14 **restoration fund charge has been a topic of**
15 **discussion at Reclamation, hasn't it?**

16 A Weren't sure whether it would be an M&R
17 charge or just an additional charge, but it has been
18 a topic.

19 **Q Well, let's -- let's go to your transcript**
20 **at 57, 15 to 58. Take a moment to review that.**

21 A Okay.

22 **Q And did we not discuss Warren Act during**
23 **that? And I'll take it off the screen.**

24 A At the time of the discussion for this
25 memo, I don't believe it was clear whether or not

463

1 that would be a mitigation and restoration
2 assessment or just some other charge.

3 **Q If it were the mitigation and restoration**
4 **fund assessment, that would assist in obtaining**
5 **proportionality, wouldn't it?**

6 A If it were assessed as a mitigation and
7 restoration charge, it could assist or it could
8 deter Warren Act contracts.

9 **Q Let's go to 352. This is a memo or e-mail**
10 **from you to Mr. Woodley, and you said Mr. Woodley**
11 **was your boss at that point?**

12 A Correct.

13 **Q September 26, 2014. If you take a moment**
14 **to review that.**

15 A Okay.

16 **Q You say in paragraph 3, one of your points**
17 **is:**

18 "Take power at face value that the issue is
19 really equitability and close loop holes in water
20 deals that use CVP facilities and don't share in the
21 CVPIA related mitigation for those facilities."

22 And then you list a number: "Warren Act
23 transfers, rescheduled water, a water transfer
24 policy that may not be enforceable."

25 So those were, according to your terms,

464

1 "loop holes in water deals," close quote?

2 A Correct.

3 **Q And those loop holes remain today, don't**
4 **they?**

5 A Yes, they do.

6 **Q Let's go to Plaintiffs' Exhibit 401. This**
7 **is a confidential briefing for the regional director**
8 **of November 13th, 2015, from you, correct?**

9 A Correct.

10 **Q The subject is: "Options in NCPA**
11 **Pre-Settlement Discussions." Take a moment to**
12 **review that.**

13 A Okay.

14 **Q And go to page two, which is 401/2, and you**
15 **discuss in the paragraph starting, "Measures to**
16 **minimize the effects of changes," and then in the**
17 **next to last sentence, you say, "Reclamation**
18 **currently considers the directive to not exceed**
19 **price limits for water sold and delivered by the CVP**
20 **as a directive to only charge project water."**

21 So let's focus on that sentence. In that
22 sentence you're referring to the discussion we had a
23 few moments ago about Reclamation only charges water
24 sold and delivered the M&R charge, correct?

25 A That is the outcome of the shorthand.

465

1 **Q And it considers that to result as a**
2 **directive from that language in the CVPIA we talked**
3 **about at 3407(d)(2), correct?**

4 A In part. That's not the complete
5 rationale, as I understood it, for how we got to
6 project water only, but it is part of the language
7 that leads us to that conclusion.

8 **Q And then you identify beneath here**
9 **additional transactions beyond project water:**
10 **Warren Act, rescheduled water subcontractors and**
11 **assignments and miscellaneous transfers, correct?**

12 A Correct.

13 **Q Let's go to Plaintiffs' Exhibit 401/3 and**
14 **highlight the second paragraph, and there you state:**
15 **"Reclamation should assess restoration**
16 **charges on Warren Act transfers and rescheduled**
17 **water." Correct?**

18 A That's the language there.

19 **Q That's what you said, isn't it?**

20 A Yes, I did.

21 **Q And this was in your confidential regional**
22 **briefing for the regional director, right?**

23 A Yes, it was.

24 **Q So you were recommending assessment of**
25 **restoration charges on Warren Act transfers and**

466

1 **rescheduled water, correct?**

2 A I feel like you're mischaracterizing what a
3 recommendation means, but that is the heading.

4 **Q Did you not say "Reclamation should assess**
5 **restoration charges on Warren Act transfers and**
6 **rescheduled water"?**

7 A If the goal of the regional director was to
8 assess more to water and bring it to
9 proportionality, that's one of the actions that we
10 could continue to pursue.

11 **Q Well, we'll leave that to Mr. Murillo's**
12 **testimony.**

13 **Your recommendation was he should assess**
14 **restoration charges, correct?**

15 A We would have to keep pursuing it, and so
16 at this time I had not eliminated that as an option,
17 but I had recommended that be kept on the table.

18 **Q Your recommendation is Reclamation should**
19 **assess restoration charges on Warren Act transfers**
20 **and rescheduled water, correct?**

21 A That is the text on the page. That is what
22 I recommended that we pursue.

23 **Q In the next sentence you said:**

24 **"The limits on exceeding 6 and 12 per**
25 **acre-foot of charges for CVP water sold and**

467

1 delivered should not be interpreted as a limitation
2 to collect only on project water supplies."
3 Correct?

4 A Correct. I believed there were other
5 provisions in the CVPIA, that was the limit to
6 project water only, and that relying on the 6 and 12
7 was an incomplete picture.

8 Q And your next sentence is:
9 "Additional use of CVP facilities should
10 share in the mitigation costs of those facilities."
11 That was your recommendation as well?

12 A Correct.

13 Q And what position did you hold at the time
14 of this memo?

15 A What was the date on the memo?

16 Q November 13, 2013.

17 A I believe I was the chief of the program
18 management branch at that time.

19 Q Responsible for the matters that you've
20 talked about earlier, correct?

21 A Yes.

22 Q Let's go to Plaintiffs' Exhibit 291.

23 Are you familiar with what is called
24 Section 215 water?

25 A I have a working knowledge, but I'm not an

468

1 expert on that statute.

2 Q How would you describe 215 water?

3 A That is surplus unstorable water that we
4 can market to really anybody with the ability to
5 take it. It's generally in flood conditions and
6 would not be otherwise able to be used for project
7 purposes.

8 Q And in this memo from you to Gail
9 Trujillo-Bixby of February 10, 2014, you were
10 suggesting that adding mandatory charges to 215
11 water that isn't paying the restoration fund charges
12 now would be a good step, correct?

13 A That was the topic of the e-mail, but I was
14 incorrect in the e-mail.

15 Q You were what?

16 A I was incorrect in the e-mail.

17 Q How so?

18 A The discussions were that 215 charges were
19 assessed in most cases, and in instances where there
20 was a lower amount or 215 was not charged, it was
21 believed that we would not have sold that water at
22 all had we assessed those charges, so if we would
23 have made those charges mandatory we would have had
24 no revenue rather than some revenue.

25 Q Well, Section 215 water is subject to

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1 Reclamation charges, but at the discretion of the
2 Reclamation area manager, correct?

3 A I believe so.

4 Q And often not charged at regular rates,
5 right?

6 A I'm not an expert in how they charge. I do
7 know they have the discretion to reduce the costs.

8 Q Let's go to Plaintiffs' Exhibit 383, which
9 is an e-mail from you -- I'm sorry -- from
10 Mr. Whitfield to you of August 13, 2015, and he's
11 responding to an e-mail from you of the same date.
12 If you would take a moment and review that.

13 A Okay.

14 Q You say in your e-mail, second paragraph,
15 that you have a number of items of concern, and you
16 cite Westlands, for example, where it shows that
17 they owe 4.6 million, and in your view that means to
18 me that we are taking away at least \$480,000 this
19 year when I really need the money, and that failing
20 to collect 4.6 million is a concern. We need to
21 elevate this issue and -- why was that a concern to
22 you?

23 A Because there was an attempt to transition
24 -- I don't know the specific accounting terms.
25 There was an attempt to transition how the money was

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1 being made available for my program from one
2 methodology to another. And at the same time, there
3 was also a reconciliation effort going on where
4 there was a question about whether or not water
5 customers, when they paid their funds, if they were
6 deposited in the correct account.

7 And so I did not want them to make changes
8 that would cut the program in 2015 -- we were
9 already working on short funding -- when they hadn't
10 finished figuring out where we were at --

11 Q And that's why --

12 A -- impact before they had completed their
13 efforts for reconciliation.

14 Q So you were concerned they could get all
15 the money they could, right, at that point?

16 A Can you rephrase the question?

17 Q You were concerned they'd get all the money
18 they could at that point?

19 A Who?

20 Q You're the writing to Rodney about
21 Westlands, about getting money from Westlands,
22 right?

23 A I was writing about the reconciliation
24 effort.

25 Q Your budget was being strained and you were

471

1 **interested in collecting funds?**

2 A There was a proposal to strain my budget by
3 shifting to that accrual basis, right. And if we
4 did not shift to the accrual basis, there would not
5 have been a strain on my budget.

6 **Q Let me turn briefly to --**

7 A At least from that -- there would not have
8 been a strain from that -- that action.

9 **Q Turn briefly to concession contractors.**

10 **Reclamation does not apply M&R charges to concession**
11 **contractors at CVP recreational facilities. Is that**
12 **correct?**

13 A Correct. They are not a water and power
14 contractor.

15 **Q Concession contractors do pay Reclamation**
16 **other fees, don't they?**

17 A I believe they do, but I'm not familiar
18 with those contracts.

19 **Q Let's turn to Joint Exhibit 6. These are**
20 **the revised interim guidelines for restoration**
21 **payments and charges, correct?**

22 A Correct.

23 **Q Are you familiar with this document?**

24 A I am familiar with it.

25 **Q The revised interim guidelines have never**

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1 **been finalized, have they? They are still interim?**

2 A Correct.

3 **Q And there is no version more current than**
4 **the October 1993 version that's at Joint Exhibit 6?**

5 A Correct. At least that has been published.
6 There may be drafts that I'm not aware of.

7 **Q These guidelines at Joint Exhibit 6 have**
8 **not been approved by the Reclamation commissioner as**
9 **official Reclamation policy, have they?**

10 A There's been no place where a commissioner
11 has signed something. We do have a delegation
12 letter to the regional director, and there may be
13 delegation letters below that.

14 **Q It's never been adopted as Reclamation**
15 **policy as such, has it?**

16 A I don't know what that means to adopt
17 something as Reclamation policy.

18 **Q They are still guidelines. They are only**
19 **guidelines?**

20 A Correct.

21 **Q Have they ever been subject to any type of**
22 **Administrative Procedure Act formal process that you**
23 **know of?**

24 A My understanding is we started that process
25 but never completed it. I believe our water and

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1 power contractors asked us not to complete it.

2 **Q And Reclamation did not complete it, right?**

3 A Correct.

4 **Q Let's go to PTX 241. This is a June 6,**
5 **2011, working draft of contractor financial**
6 **obligations, impacts, and challenges. Let's go to**
7 **page 24. Actually, let's go to first page 23 so you**
8 **can familiarize yourself and read through that, and**
9 **my question pertains to the top of page 24.**

10 A Okay.

11 **Q First if you'd share with the Court what is**
12 **a contractor financial obligations, impacts, and**
13 **challenges document?**

14 A I don't know. I'm not familiar with what
15 initiated this document.

16 **Q Have you worked on a contractor, financial**
17 **obligations, impacts, and challenges document**
18 **yourself?**

19 A I believe I reviewed a chapter on CVPIA --
20 on the program elements at one point in time. I
21 don't know if those comments were included, and I
22 don't believe this document has ever been finalized.

23 **Q Let's go then to 23 where we were reviewing**
24 **it. And it discusses revised interim guidelines at**
25 **the bottom of 23 and then at the top of 24. And it**

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1 **says in the second paragraph:**

2 "Though the revised guidelines are largely
3 in effect today, they were not finalized and do not
4 always reflect current policy."

5 **Would you consider that to be an accurate**
6 **statement, that they do not always reflect current**
7 **policy?**

8 A I'm not aware of a policy -- I'm not aware
9 of where we have a difference in policy.

10 **Q Well, it cites, for example, in the next**
11 **sentence: "Charges on settlement contractors'**
12 **transactions and charges have changed since issuing**
13 **the revised guidelines." Are you aware if that's**
14 **the case?**

15 A I'm not aware of what that changes.

16 **Q Let's go to Plaintiffs' Exhibit 208. And**
17 **208/3.**

18 A I don't believe I have that so we'll have
19 to scroll through on the screen.

20 **Q That's what we're doing.**

21 A Okay.

22 **Q At the bottom -- can you see at the bottom**
23 **it says interim guidelines?**

24 A Yes.

25 **Q And, again, confirming were never finalized**

475

1 or formally implemented.

2 Let's go to 208/6. And it mentions in
3 paragraph six, if you could highlight that, that:
4 All Reclamation accounting must conform to FASAB
5 standards.

6 Are you aware of whether that's the case or
7 not?

8 A I'm not familiar with that.

9 Q Let's go back to Joint Exhibit 6, the
10 guidelines. We'll go to page 28 which is the
11 section on restoration payments.

12 A JTX page or the document page?

13 Q JTX 6/28.

14 A Thank you.

15 Q Are you familiar with this section of the
16 revised interim guidelines?

17 A I've read it before.

18 Q Okay. Let's go to section H-3 which is on
19 pages 30 and 31. If you could bring up those,
20 particularly section C. If you take a moment and
21 review that, Doctor.

22 A Okay.

23 Q This is the section that establishes the 6
24 and \$12 price levels for irrigation and municipal
25 and industrial water, correct?

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1 allocation, right?

2 A Correct, on the ten-year rolling average.

3 Q And the target allocation for water is the
4 ten-year rolling average of their repayment
5 allocation, right?

6 A I think the target allocation is the total
7 M&R payment.

8 Q We can go back on that, if you need to.

9 A I'm sorry. I was thinking of the total
10 restoration payment obligation.

11 Q So you would agree that the target
12 allocation is the repayment obligation for water?

13 A Correct.

14 Q All right. So under section C, it says
15 the maximum restoration payment policy remains in
16 effect unless and until irrigation and M&I water's
17 repayment allocation number has been exceeded,
18 right?

19 A That's correct.

20 Q And that's the only circumstance under
21 which this would change, right?

22 A Correct.

23 Q So under this paragraph, there is no
24 provision for its implementation with respect to CVP
25 power's target allocation being exceeded, is there?

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1 A I believe so.

2 Q And it's termed the maximum restoration
3 payment policy, right?

4 A Right.

5 Q You're familiar with that term, right?

6 A Yes, I am.

7 Q You were using that term earlier, I think.

8 And the very last sentence says:

9 "The remaining portion of the total
10 restoration payment obligation shall be assigned to
11 power."

12 Now, the import of that sentence is
13 essentially that of the \$30 million supposed
14 requirement every year, whatever water doesn't pay,
15 power has to pay the difference, right?

16 A Correct.

17 Q And that policy stays in effect until the
18 next sentence happens: When a record of historical
19 annual revenues demonstrates that the percentage
20 allocation to either or both the irrigation and M&I
21 water supply functions will exceed their allocable
22 shares relative to the target allocation.

23 Let's take that one step at a time. The 6
24 and 12 stays into effect, the maximum policy, unless
25 irrigation and M&I water go over their target

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1 A There is not.

2 Q And as a result, this provision only
3 protects CVP water, correct?

4 A That's correct.

5 Q It provides no protection for CVP power,
6 right?

7 A Not under this provision.

8 Q And if, as has occurred, M&R payments were
9 to exceed for power, exceed power's repayment
10 allocation, there's nothing in this section that
11 tells Reclamation what it would do, is there?

12 A There's nothing in this section for
13 disproportionate payment by power.

14 Q Let's go to page 28 to 29 of the exhibit,
15 and section H-2-e. Should be on page 29 at the
16 bottom. And then the next page, if you would.

17 There we have the target allocation
18 language we were just discussing, so I wanted to
19 show you that so you knew that you were correct in
20 that.

21 And let's go back to the beginning of that
22 section, and we can see that that is headed
23 "Objectives and Constraints," and the target
24 allocation is one of the strengths identified below,
25 correct?

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1 A It's unclear to me whether that's an
2 objective or constraint.

3 **Q It's one or the other. Let's go further**
4 **down, let's go into it. Let's go to the next page.**

5 **So the target allocation could be either an**
6 **objective or a constraint, right?**

7 A It's under the heading "Objectives and
8 Constraints." I don't know if there's some meaning
9 to those two words.

10 **Q Well, let's now go to Joint Exhibit 3 --**
11 **I'm sorry, let's go to Plaintiffs' Exhibit 340.**
12 **This is entitled "Draft Revenue Options Technical**
13 **Memorandum."**

14 **Were you involved this the preparation of**
15 **this document?**

16 A Yes, I was.

17 **Q Was this document authored by you?**

18 A I would have been the individual who
19 compiled information into this document.

20 **Q All right. Let's go to page six, and start**
21 **with the section entitled "Proportionality." And if**
22 **you'd take a moment and familiarize yourself with**
23 **that and the sections that follow over pages 340/6**
24 **to 340/10.**

25 A Okay.

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1 **Q Are you familiar with this work you did**
2 **here?**

3 A Yes, I am.

4 **Q And what were you trying to accomplish in**
5 **this chart that you set out here?**

6 A In this chart, when folks ask Reclamation
7 or project manager to change their practice, they
8 frequently will cite individual pieces of the law
9 and not look at the whole picture. So I found that
10 this kind of structure where we just walk through
11 each one of the paragraphs and/or sentences and talk
12 about what it means to us and how we interpret it is
13 helpful, and it allows our stakeholders and other
14 interested parties to provide alternative ways that
15 they believe it should be interpreted and
16 implemented, but by going through the table we have
17 to look at the whole picture.

18 **Q So that's what your chart is trying to**
19 **present here?**

20 A The chart would be -- this specific one
21 it's attempting to explain our current practice.

22 **Q So let's start with PTX 340/7, the third**
23 **block down discusses section 3407(c)(2). And this**
24 **is the section that Reclamation often cites as the**
25 **provision that supposedly sets the \$50 million**

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1 **requirement, correct?**

2 A Correct.

3 **Q And you describe it in the right-hand**
4 **column as: Establishes a target for mitigation and**
5 **restoration charges to result in total revenues of**
6 **\$50 million per year on a three-year rolling average**
7 **basis. Correct?**

8 A That's how I described it.

9 **Q As a target.**

10 **And as noted in the line sixth from the**
11 **bottom that that target is subject to the**
12 **limitations in subsection (d) of this section,**
13 **right?**

14 A That's the language of the statute.

15 **Q And so as --**

16 A The statute does not use the word target,
17 though.

18 **Q No, it's your term. I understand we're**
19 **using your term.**

20 A Okay.

21 **Q And that that target is subject to**
22 **limitations of subsection (d), and we're going to go**
23 **through those.**

24 **But Reclamation's implementation has**
25 **considered that \$50 million either target or number**

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1 **as subject to the limitations in subsection (d),**
2 **correct?**

3 A Correct.

4 **Q The next page is eight. In the third box**
5 **down it talks about 3407(d)(1), and that section, as**
6 **you describe it, is: The mitigation and restoration**
7 **payments would be reduced if other revenues would**
8 **cause those payments to exceed the \$50 million in**
9 **total collections.**

10 **That's your description of what it does?**

11 A Correct.

12 **Q And so that's one of the limitations that**
13 **3407(c)(2) is subject to, right?**

14 A I believe so.

15 **Q All right. We'll call that number one.**

16 **The next one down is section 3407(d)(2)(a),**
17 **which you describe in the fourth and the fifth box,**
18 **and the fifth box provides for the \$30 million limit**
19 **as you describe in the right column, right?**

20 A Correct.

21 **Q So that's one of the limitations to which**
22 **the \$50 million is subject, right?**

23 A Correct.

24 **Q We'll call it number two.**

25 **And the next one down is 3407(d)(2)(a), the**

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1 limitation of 6 and \$12 per acre-foot, right?
 2 A Correct.
 3 Q And that's another limitation to which the
 4 \$50 million is subject, right?
 5 A Correct.
 6 Q Great.
 7 Then on page 340/9 in your right-hand side
 8 you first have the ability-to-pay relief. And
 9 that's the authority for the secretary to give
 10 ability to pay to irrigation contractors, right?
 11 A Correct.
 12 Q And that's a limitation to which the 50
 13 million is subject as well?
 14 A Correct.
 15 Q That's the fourth one, correct, we've gone
 16 through?
 17 A Correct.
 18 Q The next is the municipal and industrial
 19 surcharges that you discuss, that's the \$25 per
 20 acre-foot on water sold or, interestingly,
 21 transferred, and that provides an additional charge
 22 of \$25 on that type of water, correct?
 23 A Transferred to a non-CVP.
 24 Q Yes.
 25 Does Reclamation consider that to be a

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1 limitation with respect to 3407(d), or is it a
 2 charge?
 3 A I'm not sure. It is definitely a charge,
 4 and it would be one of the measures to reach 50
 5 million.
 6 Q Right. Is the 50 million subject to it?
 7 A Can you rephrase that?
 8 Q Yes. Going back to 3407(c)(2), we talked
 9 about the 50 million being subject to limitations in
 10 subsection (d).
 11 Does Reclamation consider the municipal and
 12 industrial surcharge to be a limitation in
 13 subsection (d) to which the 50 million is subject?
 14 Yes or no? I don't know.
 15 A I'm not familiar that Reclamation has taken
 16 a position on that.
 17 Q All right. So let's put that aside.
 18 And the next one is the completion
 19 criteria, as you describe it, in which case when
 20 certain projects are completed the price levels are
 21 reduced to 35 and 15 million, right?
 22 A Correct.
 23 Q And that's a limitation to which the
 24 \$50 million in 3407(c)(2) is subject, right?
 25 A Correct.

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1 Q That's five.
 2 And then we get 3407(d)(2)(a), the
 3 proportionality provision that's brought us all here
 4 today, right?
 5 A Correct.
 6 Q And Reclamation considers the \$50 million
 7 in 3407(c)(2) to be subject to that as a limitation
 8 as well, doesn't it?
 9 A We do not.
 10 Q You don't. All right. So let's go back
 11 and count. We have (d)(1), which was the -- if it
 12 goes over 50 million, that's one, right?
 13 A Okay.
 14 Q We have two is the \$30 million limit.
 15 A I don't know that we would consider (d)(1)
 16 a limitation. That's a reduction to the mitigation
 17 and restoration payments, if it looks like we would
 18 exceed that 50 million.
 19 Q And that has never happened?
 20 A Has not.
 21 Q But it would limit 3406 -- limit 3407 (d)--
 22 (c)(2), doesn't it?
 23 A It would. Yes, it would.
 24 Q It would.
 25 And then we have the 6 and 12 as number

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1 three, right?
 2 A Yes.
 3 Q And then we have the ability-to-pay relief
 4 as number four, right?
 5 A Correct.
 6 Q And we have the completion criteria one
 7 which is number five?
 8 A Correct.
 9 Q Have you previously testified where you've
 10 identified the proportionality limitation as a limit
 11 to which 3407(c)(2) 50 million is subject?
 12 A We had extensive discussion in the
 13 deposition testimony where I initially identified it
 14 as a limitation, and then further clarified it as a
 15 provision and discussed how we allocate versus
 16 reduce mitigation-restoration payments.
 17 Q You did. And you considered it a
 18 limitation within that context.
 19 A I do not consider it a limitation on the 50
 20 million.
 21 Q Well, let's go to your deposition
 22 transcript at 67, lines 22 to 24. Let's actually
 23 start at line 14.
 24 Your Honor, when you're finished reading,
 25 I'll turn it off.

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1 Does that refresh your memory, Doctor, that
2 you have described the proportionality limitation as
3 a limitation to which the 50 million in section
4 3407(c)(2) is subject?

5 A I was incorrect when I described it as a
6 limitation. As I later clarified, we believe that
7 the \$50 million takes priority over the direction to
8 be proportional to the greatest degree practicable.

9 Q Didn't you also say that that's because of
10 the term "greatest degree practicable"?

11 A At the time, that's what I thought it was.

12 Q Is your testimony different today?

13 A It would be different today.

14 Q And what is your testimony today?

15 A That it it's not a limitation.

16 Q At all? It's not a limitation at all to
17 which the 50 million is subject?

18 MR. OLIVER: Objection. Mischaracterizes
19 testimony.

20 THE COURT: Overruled.

21 BY MR. RALSTON:

22 Q What is your position today as to the
23 status of the proportionality limitation; is it a
24 limit to which the 50 million is subject or not?

25 A It is not a limit to which the \$50 million

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1 THE COURT: Well, I'm going to overrule the
2 objection. I think in this circumstance it is
3 relevant.

4 BY MR. RALSTON:

5 Q Is this statement incorrect as well?

6 A That was our understanding at the time, but
7 it is not correct.

8 Q So that was the Bureau's understanding as
9 of when your deposition was taken in June of 2016,
10 correct?

11 A Correct.

12 Q But today you're testifying it's different?

13 A We know that that was not the reason why.

14 Q And was it correct up until June of 2016?

15 A Was my testimony correct or was the
16 Bureau's position correct?

17 Q Was that the Bureau's position up until
18 June of 2016?

19 A That was the Bureau's position.

20 Q And that position has now changed?

21 A We were told that position was incorrect.
22 We have not made a different finding.

23 Q Who told you that position was incorrect?

24 MR. OLIVER: I'm going to object to the
25 extent it's intrusion upon attorney-client

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1 is subject.

2 Q So your testimony that we just highlighted
3 here was incorrect?

4 A That's correct.

5 Q Did you undertake a review of your
6 deposition after you gave it? Did you read through
7 it?

8 A Yes, I did.

9 Q Did you do an errata page?

10 A Yes, I did. I did not identify that in the
11 errata page.

12 Q That's correct, you did not, did you?

13 A That was your question.

14 Q It was. You anticipated my question.

15 So with that change in your testimony, we
16 have five limitations to which 3407(d) is subject;
17 am I correct?

18 A Correct.

19 Q Let me go to your transcript, page 75,
20 7-12. If you'd read through that.

21 So is this testimony also incorrect?
22 Should this be corrected as well?

23 MR. OLIVER: I would object to the use of
24 the deposition testimony. It's not proper
25 impeachment as he's trying to use it.

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1 privilege. I mean, we're talking about legal
2 theories here.

3 THE COURT: I'm going to take the answer to
4 this question. He doesn't have to elaborate to get
5 into communications, but I want him to identify who
6 told him to change his position.

7 THE WITNESS: When we were working with the
8 Department of Interior and the Department of
9 Justice, they walked through how the statute is
10 constructed and showed that there was a different
11 reason why that was not the limitation than the
12 Bureau had come to understand.

13 BY MR. RALSTON:

14 Q And that discussion was after this suit was
15 filed, yes?

16 A Yes.

17 Q And after you had your deposition taken?

18 A Yes.

19 Q So it occurred during the course of this
20 litigation?

21 A Yes.

22 MR. RALSTON: Your Honor, I fear if I go
23 any further, I'll go down the attorney-client
24 privilege issue, but I'll stop there.

25 THE COURT: All right. I don't want you to

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1 impinge upon the attorney-client privilege, but I
2 think the identity of, you know, what he's described
3 so far is fair game.

4 BY MR. RALSTON:

5 **Q So who from the Department of Interior had**
6 **that discussion with you?**

7 A From the solicitor's office?

8 **Q Yes.**

9 A I believe we were in a room together, and I
10 don't remember whether it was Mr. Davis Oliver or
11 Mr. Steve Palmer.

12 **Q It was Mr. Oliver or Mr. Palmer. And was**
13 **that meeting here in California?**

14 A I'm not sure if we were on the conference
15 phone or in person.

16 **Q Were you here in California?**

17 A Yes.

18 **Q And what occurred is a review of the**
19 **statute, and the outcome was that the position of**
20 **the Bureau had changed?**

21 A We were working through the defense and the
22 information for this case, and they were explaining
23 to me how the statute is constructed.

24 **Q And that explanation included that the**
25 **proportionality limitation is not a limitation to**

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1 **which section 3407(c)(2) is subject?**

2 MR. OLIVER: Your Honor, I'm just going to
3 renew my objection for the record. I think -- I
4 don't see what relevance discussions that Dr. Mooney
5 had with the Department of Justice in connection
6 with a brief that the Department of Justice
7 representing the United States filed in connection
8 with this lawsuit has to factual testimony. It's
9 just improper to go further down this path. We
10 articulate our legal positions in the briefs. To
11 quiz him as to how -- what contributions he made to
12 our brief is not proper factual testimony.

13 THE COURT: Dr. Mooney, may I ask you
14 please to step down and go outside just for a moment
15 while I speak with counsel.

16 Thank you very much.

17 (Dr. Mooney exits proceedings)

18 THE COURT: Gentlemen, perhaps we don't
19 need a whole lot more on this subject. It's
20 important to me to know that this gentleman
21 testified one way in June of 2016, and now he's
22 changed his position based upon advice from the
23 Department of Justice. It is what it is. He had a
24 viewpoint about how the statute should be
25 interpreted up to 2016, and now it's different based

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1 upon what you all told him. So --

2 MR. OLIVER: May I respond?

3 THE COURT: -- maybe you're right and maybe
4 you're not, but it's a significant event in my mind.

5 MR. OLIVER: May I respond, Your Honor?

6 THE COURT: Sure.

7 MR. OLIVER: It's true that this is an
8 illegal exaction case, and it has involved some
9 questions in depositions involving how the program
10 manager interprets the statute, not necessarily how
11 we implement it. We all -- there's no dispute how
12 they implement it. But what is the legal theory?
13 How do you construct the provisions in a statute.
14 Okay? And so, yes, it's true, he articulated in
15 that instance in which Mr. Ralston -- he articulated
16 a legal theory to which the Department of Justice
17 contends is incorrect, but that I think is simply an
18 issue of laymen articulating a legal theory.

19 It's our job, as lawyers, the Department of
20 Justice, in our briefs to articulate what is the
21 legal basis for how Dr. Mooney implements the
22 statute. So it's proper for him to talk about how
23 he's implemented the statute, and we could talk
24 about, in our briefs, as we have and we will in our
25 post-trial briefs, what is the legal basis for that

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1 implementation.

2 I don't think it's proper to go any further
3 into discussions on why the legal theory that he
4 thought supported the implementation, at least in
5 regard to the proportionality provision, was
6 incorrect.

7 THE COURT: Well, I'm going to give
8 Mr. Ralston some leeway here in deciding whether he
9 thinks there's more that needs to be dealt with to
10 build a complete record. But I don't want to get
11 into attorney-client privilege, as we've discussed.
12 You know, I think I have the picture here, and I
13 think I know what happened.

14 Mr. Ralston, you're welcome to respond.

15 MR. RALSTON: Your Honor, thank you.

16 Two points. I would note first that
17 Dr. Mooney was the 30(b)(6) designee on this very
18 issue, as I pointed out and worked through in the
19 beginning of this examination. And, second, I think
20 that we can limit our additional questions on this
21 to simply the date, time of that meeting or that
22 phone call would be sufficient so that I know where
23 in the chronology that occurred.

24 THE COURT: I think also I'd like to have
25 the full 30(b)(6) deposition as an exhibit in the

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1 record, if we might.

2 MR. RALSTON: So moved, Your Honor.

3 THE COURT: Any objection?

4 MR. OLIVER: Yeah. I don't think it's a
5 proper -- there are any grounds to admit an entire
6 30(b)(6) deposition.

7 THE COURT: There absolutely is. Under
8 Rule 32 of the Court's rule, it says in black and
9 white a 30(b)(6) deposition may be admitted into
10 evidence. So that deposition will be admitted.

11 MR. OLIVER: And, moreover, you know, as I
12 advocated before the 30(b)(6) deposition was taken,
13 I asked several times of Mr. Ralston and Mr. Murray
14 that we be clear because he was deposed both in his
15 30(b)(6) capacity as well as his individual
16 capacity. And in my practice, when that is the
17 case, we have a 30(b)(6) transcript, and when that
18 ends we have an individual transcript.

19 THE COURT: Well, I haven't seen the whole
20 thing. Is it completely a 30(b)(6) transcript or is
21 it part 30(b)(6) and part individual?

22 MR. RALSTON: Your Honor, knowing how
23 important this issue is, my recollection as I'm
24 sitting here just doesn't serve me well. It was
25 certainly a 30(b)(6), and it was on the topics

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1 How much more direct examination do you
2 have of this witness?

3 MR. RALSTON: Your Honor, would you give me
4 just a few moments to look through my notes and I --

5 THE COURT: Just give me an estimate. I
6 thought you might be at the end with this witness.

7 MR. RALSTON: I am. I would say I'm
8 certainly getting to there. Probably no more than
9 another 45 minutes.

10 THE COURT: All right. Let's adjourn for
11 the evening, and we'll reconvene at 9:30 tomorrow
12 morning.

13 MR. RALSTON: Very good.

14 (Proceedings adjourned at 5:01 p.m.)

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1 designated that are an exhibit we went through of
2 which this includes. So I feel comfortable in
3 saying to the Court standing here that this topic
4 was within the 30(b)(6) caliber of what we were
5 discussing.

6 And I understand counsel's point that there
7 may be some non-30(b)(6) aspects, and we're not
8 unwilling to go through and parse those, but I think
9 we provided as Plaintiffs' Exhibit 12, PTX 12, and
10 the Court is absolutely correct, Rule 32 provides
11 that 30(b)(6) comes in under any set of
12 circumstances, point 1. And 2, it's the deposition
13 of a party opponent so it would come in as an
14 admission against interest, period, even in the
15 context outside of 30(b)(6).

16 THE COURT: Well, what I'm going to suggest
17 is that we break for the day at this point, and I'm
18 happy to hear -- you may have some overnight
19 thoughts about this that either of you want to
20 raise, and we can take it up again in the morning.
21 In the meantime, you may want to take a closer look
22 at the deposition to see how exactly it should be
23 classified.

24 MR. RALSTON: Sure.

25 THE COURT: We can talk about it then.

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1 STATE OF CALIFORNIA)

2) ss.

3 COUNTY OF SAN FRANCISCO)
4

5 I, VICKI A. HAINES, do hereby certify that
6 I am a Certified Shorthand Reporter pursuant to the
7 laws of the State of California;

8 That acting as such reporter, I took down
9 in stenotype the testimony given and proceedings had
10 in the within-entitled action fully, truly and
11 correctly.

12 That I thereafter caused the foregoing
13 proceedings of said cause to be transcribed into
14 typewriting, and that the foregoing pages constitute
15 a true and correct transcript of said stenotype so
16 taken.

17
18 Dated this 15th day of February, 2018.
19

20 s/Vicki Haines

21 VICKI HAINES, CSR No. 5995
22
23
24
25

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ADMITTED EXHIBITS

DX PAGE DESCRIPTION

2 300 Email Trujillo-Bixby to Killian, re Lower
Tule River Irrigation DI

9 302 Rosedale Bravo WSD Movement of Funds

PX PAGE DESCRIPTION

421 352 Sustainability of Central Valley Project

(Page 44) Power, May 11 2016 Reclamation Internal
Workshop Document (Page 6)

Northern California Power Agency v. USA

1/17/2018

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In the Matter of:

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January 18, 2018

Trial

Vol. 3

Condensed Transcript with Word Index



For The Record, Inc.

(301) 870-8025 - www.ftrinc.net - (800) 921-5555

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1/18/2018

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1 IN THE UNITED STATES COURT OF FEDERAL CLAIMS
2
3 NORTHERN CALIFORNIA POWER)
4 AGENCY, et al.,)
5 Plaintiffs,)
6 vs.) No. 14-817C
7 THE UNITED STATES,)
8 Defendant.)
9
10
11 Courtroom 15
12 Phillip Burton U.S. Courthouse
13 450 Golden Gate Avenue
14 San Francisco, California
15 Thursday, January 18, 2018
16 9:32 a.m.
17 Trial Volume 3
18
19
20 BEFORE: THE HONORABLE THOMAS C. WHEELER
21
22
23
24
25 Vicki Haines, CSR No. 5995

501

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502

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1 I N D E X
2
3 Witness: Direct: Cross: Redirect: Recross:
4 D. MOONEY
5 (Rule 611)
6 Mr. Ralston 511 662
7 (Continued)
8 Mr. Oliver 614 574 692
9
10 A. WOLFE
11 Mr. Murray 697
12
13
14 E X H I B I T S
15
16 Note: All exhibits were premarked and admitted into
17 evidence prior to trial unless otherwise indicated
18 below.
19
20 Number: Admitted: Withdrawn/Stricken:
21
22 Plaintiffs':
23
24 12 510
25

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PROCEEDINGS

- - - - -

(Proceeding called to order, 9:32 a.m.)

THE CLERK: All rise. The United States Court of Federal Claims is now in session. The Honorable Thomas C. Wheeler presiding.

THE COURT: Good morning.

ALL COUNSEL: Good morning.

THE COURT: You may be seated.

All right. We're on the record for day three of our trial in Northern California Power Agency versus the United States.

Are there any preliminary matters before we get started this morning? I do have, by the way, a bench memo that plaintiffs submitted regarding the admissibility of the deposition of Dr. Mooney. I take it you've seen that, Mr. Oliver?

MR. OLIVER: I have received it about five minutes ago, yes, I've seen it.

THE COURT: Okay. Have you had a chance to read it?

MR. OLIVER: I reviewed it very quickly, but yes.

THE COURT: Is there anything we need to discuss about it?

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designations, if he wants to designate portions of the 30(b)(6) transcript that he wants to use, be admissible, that's fine, we can do counter-designations. And so our proposal is to proceed that way rather than having the entire 30(b)(6) transcript admitted in whole.

THE COURT: Approximately how much of the transcript is Rule 30(b)(6) and how much is in his individual capacity, would you say?

MR. OLIVER: I don't have the percentages, but, I mean, I would say that the vast majority of the transcript is probably 30(b)(6), but I don't have a percentage. I'd have to go through line by line. I haven't done that, Your Honor.

THE COURT: If it's mostly Rule 30(b)(6), I'm not sure it's worth the effort to really go through and make the distinction you're suggesting. I haven't seen the deposition. I think I have a copy of it, but I haven't read it. That's just my initial reaction.

MR. OLIVER: Well, we would reserve the right to object to those portions that come in as not being 30(b)(6) testimony.

THE COURT: All right. Mr. Ralston, do you have any response?

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MR. OLIVER: Yes, Your Honor. I'm not certain if the witness should be part of this.

THE COURT: Yeah. Thanks for your patience, Dr. Mooney. We'll be with you shortly.

THE WITNESS: No problem.

(Dr. Mooney exits proceedings)

MR. OLIVER: If I may approach, Your Honor.

THE COURT: Yes.

By the way, Mr. Ralston, you'll want to go ahead and file your bench memo on our CM/ECF system with the Court.

MR. RALSTON: Yes, Your Honor.

THE COURT: Go ahead, Mr. Oliver.

MR. OLIVER: The government's position is that because there are parts of the 30(b)(6) transcript which contain testimony in Dr. Mooney's personal capacity and because I tried to work out a deal, an agreement with Mr. Ralston prior to this testimony, anticipating that there was going to be both personal and 30(b)(6), that we just split the transcripts. End 30(b)(6) and have a separate transcript for personal, which is my practice, it's what I do when we combine the two to make it clean, but that's not what happened.

My suggestion to the Court is that we do

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MR. RALSTON: Your Honor, thank you. As indicated in the bench memo, we did review the transcript last evening, and there was only one objection as to out of scope. It was lodged, and it didn't involve this section. So we submit the entire transcript ought to come in under Rule 32 and FRE 801, and I would say beyond simply the issue of yesterday that, to some extent, there are issues raised about a number of aspects of -- of Dr. Mooney's testimony to which the deposition would be relevant as substantive evidence.

Beyond the admission, Your Honor, I thought it would be helpful to the Court and the parties, if the Court would indulge me a few minutes in terms of where we find ourselves and the scope of the examination on the issue so that as to -- by virtue of vetting this issue in advance of us doing it, we won't have to go quite through the objection process in doing it in front of the witness, so we can perhaps get the ground rules established in advance, if the Court would entertain that.

THE COURT: I'm presuming that you will have some additional examination of Dr. Mooney about the circumstances in which he received guidance from counsel on the government side.

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1 MR. RALSTON: I do, Your Honor.

2 THE COURT: For example, just for the sake
3 of the record, I would like to know, if he can help
4 us, when this discussion was held, was it in person
5 or on the telephone, who all was present. I'd like
6 to know whether anyone from the Department of the
7 Interior ever told him before this discussion that
8 he was interpreting the statute incorrectly, because
9 if there's a long history of doing things one way
10 and they suddenly came to a different approach after
11 the lawsuit was filed, well, that may be instructive
12 in our final resolution of the matter.

13 MR. RALSTON: Yes, Your Honor.

14 THE COURT: I'll leave that to you.

15 MR. RALSTON: You anticipated a number of
16 the questions that I had -- that I will have.

17 I am sensitive to counsel's concern of the
18 attorney-client privilege issue, and I'm going to
19 try to, where possible, avoid that element of it so
20 that we're not going beyond that, but each of the
21 points the Court made I think are exactly the ones
22 we would focus on.

23 THE COURT: Okay.

24 MR. RALSTON: With that, Your Honor, I'm
25 ready to proceed.

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1 THE COURT: All right. Do you have
2 anything further?

3 MR. OLIVER: Absolutely, Your Honor.

4 THE COURT: Okay.

5 MR. OLIVER: Mr. Ralston, I think, is
6 conflating two issues in his remarks. He's
7 conflating how Reclamation implemented the statute,
8 right, from 1992 to the present versus how the
9 program manager answered a particular question on
10 how he interpreted the meaning of one particular
11 section of that statute. And so, you know,
12 communications between Dr. Mooney -- or any attorney
13 communications between Dr. Mooney and lawyers as to
14 what the legal statutory construction of the statute
15 is is privileged.

16 Now, discussions as to how the program
17 manager intends and understands how the statute
18 should be implemented, that's a factual question and
19 it's fair game to ask: Well, did your
20 implementation before the deposition and after the
21 deposition, is that the same, is it different? Fair
22 question, which that will come out. But the idea
23 that exploration as to legal discussions on how the
24 statute should be interpreted between agency
25 counsel, like he said, they took place between

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1 agency counsel and Dr. Mooney. I think there's no
2 question that that intrudes upon the privilege that
3 applies between the Bureau of Reclamation and its
4 attorneys.

5 THE COURT: All right. Can you remind me,
6 what is the exhibit number of his deposition?

7 MR. RALSTON: 12, Your Honor, Plaintiffs'
8 Exhibit 12.

9 THE COURT: Well, based on the arguments of
10 counsel and having looked at the bench memo this
11 morning, I'm going to admit into evidence the entire
12 deposition of Plaintiffs' Exhibit 12, based on a
13 rather clear reading of Rule 32(a)(3) of the Court
14 of Federal Claims as well as Federal Rule of
15 Evidence of 801(b)(2) concerning statements of an
16 opposing party. So the entire document will be
17 admitted into evidence.

18 (Plaintiffs' Exhibit No. 12 was
19 admitted into Evidence.)

20 THE COURT: Will one of you invite
21 Dr. Mooney back into the courtroom, please?

22 MR. OLIVER: Yes, Your Honor.

23 THE COURT: Thank you for your patience,
24 Dr. Mooney. You may be seated at the witness stand.
25 (Dr. Mooney resumes the stand.)

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1 THE COURT: Do you understand that you're
2 still under oath in these proceedings?

3 THE WITNESS: Yes, I do.

4 THE COURT: Okay. Let's go ahead.

5 Mr. Ralston.

6 MR. RALSTON: Thank you, Your Honor.

7 BY MR. RALSTON:

8 **Q Good morning, Dr. Mooney.**

9 A Good morning.

10 **Q My first question is that since we**
11 **adjourned our proceeding yesterday, have you**
12 **discussed your testimony with anyone?**

13 A No, I have not.

14 **Q Let me return to the discussion we had**
15 **yesterday concerning your change in position with**
16 **respect to the status of the proportionality**
17 **limitation.**

18 **And you testified that that change occurred**
19 **during or as a result of a phone call that you had**
20 **with counsel, correct?**

21 A I'm not sure if it was a -- I think it was
22 a phone call.

23 **Q All right. Do you -- what was the -- was**
24 **it a call or was it a meeting?**

25 A I don't recall.

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Q You were here in Sacramento?

A I was here in Sacramento.

Q And what was the date of the call?

A It would have been after I reviewed the -- I think it's called the pretrial filing where I provided some comments, so I believe that was -- I'm not sure exactly, but I think it would have been two or three weeks ago.

Q So approximately mid to late December of 2017?

A Probably more early January. I'm not sure exactly when I reviewed the pretrial briefings.

Q So January of 2018?

A I'm not sure.

Q This month?**So either December or January?**

A Correct.

Q Was there just one call or meeting or more than one?

A I believe we discussed it in one call or meeting.

Q And do you remember the approximate time of day of the call or meeting?

A No, I do not.

Q And besides you who else was on the call?

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And I want you to answer with respect to first non-lawyers, those persons who are not lawyers who were on the call.

A I'm not sure if it was a call or in person, but I don't remember anybody other than the counsel.

Q All right. Was counsel with you in person in Sacramento at the call?

A I'm sorry, it's been a very busy first part of the year. I -- I don't remember.

Q Were there any other personnel on the phone call from the Bureau of Reclamation?

A I'm sorry, I really don't remember.

Q Were there any other personnel on the phone call from Western?

A I don't believe we were meeting with Western at the time.

Q That wasn't my question. Were there any personnel from Western on the phone call specifically?

A I don't recall the specifics. I don't think there was anybody from Western.

Q Did you initiate the phone call?

A I think I may have. I'm not -- I'm sorry, I'm just not sure.

Q You don't remember?

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A I don't remember.

Q Did you call from your office?

A I don't remember. It was over the holidays so I might have been teleworking. I don't remember.

Q Did you use your cell phone?

A Probably.

Q You probably did.**And you don't have any other recollection as to the details of that call on the issue of import to this case?**

A In terms of attendance, time, and location, I don't remember.

Q Were there any calls subsequent to that call or meeting concerning this topic, meaning the change of your testimony?

A For -- we had the preparation work for the testimony.

Q And was the topic of the call, namely, the change in your position discussed then?

A No. We walked through the potential question that could be asked.

Q You said you reviewed some pretrial filings in this case. Did you review the pretrial filings of the plaintiffs?

A I remember skimming them, but I don't

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remember reading them in detail.

Q Did you review the pretrial filings of the defendant?

A Yes, I did.

Q And it was those filings that you were calling about?

A Suggested edits to those filings.

Q Was counsel from the Mid-Pacific Region of Bureau of Reclamation on the call with you?

A I'm not sure.

Q Are you sure who answered the call when you made it, if you made it?

A I know I had a discussion with Department of Justice.

Q Prior to that phone call, did anyone at the Bureau of Reclamation tell you that your position in your deposition testimony on the proportionality limitation was incorrect?

A Not that I know of.

Q Prior to that phone call, did anyone at the Department of Interior tell you that your deposition testimony on the proportionality limitation was incorrect?

A No.

Q And until that phone call your deposition

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1 testimony on the proportionality limitation was
2 unchanged?

3 A Correct.

4 Q And your deposition, as we reviewed
5 yesterday, was under Rule 30(b)(6) which you were
6 the designated witness on the issue of the
7 implementation of section 3407 by the Bureau of
8 Reclamation, correct?

9 A That's correct.

10 Q Since that phone call, have you discussed
11 the change in your position with Ms. Trujillo-Bixby?

12 A No, I have not.

13 Q Have you discussed it with Autumn Wolfe?

14 A No, I have not.

15 Q Have you discussed it with David Murillo?

16 A No, I have not.

17 Q Have you discussed it with Heather Lindell?

18 A I think I may have.

19 Q And what did you share with Ms. Lindell
20 about this?

21 A I think it would have been a conversation
22 in passing probably that -- that the much stronger
23 reason for how we came to this practice.

24 Q And besides Ms. Lindell, Mr. Woodley?

25 A I have not.

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1 Q Anyone else?

2 A No.

3 Q Let's return to your conversation with
4 Ms. Lindell. Did you inform her you had changed
5 your position from your deposition testimony?

6 A We did not discuss my deposition testimony.

7 Q Was she aware of your deposition testimony?

8 A I don't know.

9 Q Was she aware that there was a change from
10 your position?

11 A I don't know.

12 Q Did you tell her you had changed your
13 position to the supposedly stronger argument?

14 A No.

15 Q And what was Ms. Lindell's response?

16 A I don't recall a response.

17 Q She didn't respond when you told her that
18 you had discovered a much stronger position with
19 respect to the main issue in this case?

20 MR. OLIVER: Objection. Argumentative and
21 asked and answered.

22 THE COURT: Overruled.

23 THE WITNESS: So I'm not a lawyer. All I
24 can do is implement what I've been told is the
25 Reclamation's position.

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1 BY MR. RALSTON:

2 Q Dr. Mooney, my question is quite different.
3 You're telling this Court that Ms. Lindell had no
4 response when you informed her that you had
5 determined there was a much stronger position with
6 respect to the defendant's case?

7 A I don't recall.

8 Q You don't recall if she responded at all?

9 A I don't recall what she responded with.

10 Q Did you discuss it with her subsequently?

11 A No.

12 Q You characterized it as a, quote, "much
13 stronger position." What caused you to come to the
14 conclusion that it was, quote, "a much stronger
15 position"?

16 MR. OLIVER: Objection. Mischaracterizes
17 testimony.

18 THE COURT: Overruled.

19 THE WITNESS: I thought that it provided
20 even more weight to why proportionality is
21 subordinate to the direction to collect 50 million.
22 BY MR. RALSTON:

23 Q And, thus, effectively determining that
24 your prior testimony on that point was less
25 persuasive, correct?

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1 A My prior testimony on which provisions
2 limit the total amount versus which provisions
3 provide allocation I still believe is valid.

4 Q No. Your testimony that the
5 proportionality limitation of section 3407(d) is not
6 a limitation to which 3407(c)(2) 50 million is
7 subject, that's the testimony at issue, sir, as you
8 know.

9 A I believe multiple times during my
10 testimony I identified that proportionality is
11 subordinate to the direction to collect 50 million.

12 Q You did during your deposition testimony.

13 A And we also referred to it as a
14 proportionality provision and not a limitation.

15 Q And your trial testimony changed from that
16 position, didn't it?

17 A I think my trial testimony yesterday is
18 more consistent with my explanation of how
19 Reclamation implements it.

20 Q Your trial testimony changed from your
21 deposition testimony, didn't it?

22 A Yes, it did.

23 Q And the change is because you thought the
24 new trial testimony position was a stronger position
25 than the one you had testified about in your

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1 **deposition, correct?**

2 A I changed because I realized that when you
3 had used the term limitation it meant something that
4 reduces the 50 million, and it is not something that
5 Reclamation has implemented to reduce the 50
6 million.

7 **Q My question is simple: Your new position**
8 **indicates your old position was not as persuasive as**
9 **your new position, correct?**

10 A My statement now is that I understand it as
11 not a limitation on the direction to collect 50
12 million.

13 **Q Which you think is a stronger position than**
14 **the position you previously took?**

15 A I think it is a more clear articulation of
16 why Reclamation considered proportionality
17 subordinate.

18 **Q I'm not trying to put words in your mouth,**
19 **Doctor. You said in your conversation with**
20 **Ms. Lindell that it was a stronger position. Is**
21 **that your testimony or not?**

22 A In my conversation I thought it was a
23 stronger position.

24 **Q Stronger position than the one you had**
25 **taken at your deposition testimony, correct?**

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1 A I thought my deposition testimony was not
2 as clear as it could have been.

3 **Q And was weaker than the position you have**
4 **now adopted, correct?**

5 A Correct.

6 **Q Thank you.**

7 **Your Honor, I think that covers all the**
8 **points I have on this issue.**

9 THE COURT: All right. Do you want to stop
10 or proceed?

11 MR. RALSTON: I have some more to proceed
12 on. In case counsel wanted --

13 THE COURT: Why don't you proceed with your
14 examination.

15 MR. RALSTON: All right. Fine

16 BY MR. RALSTON:

17 **Q Let's return to Plaintiffs' Exhibit 340 at**
18 **page eight.**

19 **Dr. Mooney, we were discussing at page**
20 **eight the provision in the third box, 3407(d)(1),**
21 **and you had identified that as one of the**
22 **limitations to which the 50 million supposed**
23 **obligation in 3407(c)(2) is subject. Is that**
24 **correct or not?**

25 A That is a reduction to the

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1 mitigation-restoration payment in obtaining the 50
2 million.

3 **Q So is the 50 million in 3407(c)(2) subject**
4 **to 3407(d)(1)?**

5 A That is how we would obtain the 50 million.

6 **Q Is it a limitation or not?**

7 A It's a limitation on the mitigation and
8 restoration payment.

9 **Q And that is consistent with your new**
10 **testimony or your prior testimony, which? Do you**
11 **know?**

12 A I believe it would be consistent with both
13 as to how we implement.

14 **Q With both, all right. So it's a limitation**
15 **under your 30(b)(6) deposition testimony position**
16 **and under your trial position, correct?**

17 A Correct.

18 **Q So if you would examine the language in the**
19 **third box of 3407(d)(1), and if you review it, and**
20 **take your time, see if you can find in that**
21 **provision the term "provided."**

22 A I do not see the term "provided."

23 **Q See if you can find the term "provided**
24 **further"?**

25 A I do not see the term "provided further."

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1 **Q Neither of those terms are in that section**
2 **of the statute, are they?**

3 A It is not.

4 **Q Yet, nonetheless, it's your testimony that**
5 **3407(d)(1) is a limitation to which 3407(c)(2) 50**
6 **million is subject?**

7 MR. OLIVER: Objection. That
8 mischaracterizes the testimony.

9 THE COURT: Overruled.

10 THE WITNESS: I think it is one of the
11 elements of the law that we implement that would
12 reduce the mitigation-restoration payments, but it
13 would not reduce the 50 million.

14 BY MR. RALSTON:

15 **Q My question is simply: Is 3407(c)(2)**
16 **subject to 3407(d)(1) even though it doesn't have**
17 **the term "provided" in it?**

18 MR. OLIVER: And I'll just have an
19 objection. All this is legal conclusions. These
20 are all clearly legal conclusions, statutory
21 construction.

22 THE COURT: I'm going to overrule those
23 objections because this is the 30(b)(6)
24 representative on the subject, and he's the one
25 person who is responsible for implementing the

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1 program from the Bureau of Reclamation, so we're
2 going to have to live with that.

3 MR. OLIVER: That's fair. Can I make one
4 more comment just in response, Your Honor.

5 He's the 30(b)(6) with regard to
6 implementing the program, and this is not testimony
7 regarding implementation.

8 THE COURT: He's a very knowledgeable
9 person on the whole subject matter. That's where
10 I'm coming from on this.

11 BY MR. RALSTON:

12 Q So you may answer.

13 A We would view this provision to reduce the
14 mitigation-restoration payment.

15 Q Therefore, 3407(d) -- sorry -- 3407(c)(2),
16 the 50 million requirement is subject to 3407(d)(1)
17 even though it does not include the term "provided"?

18 A I don't think connecting those two is a
19 proper way to describe how Reclamation implements
20 this provision.

21 Q Connecting meaning the two sections?

22 A So there is nothing within 3407(d)(1) that
23 would reduce the 50 million in payments that we're
24 supposed to obtain. The 3407(d)(1) would reduce the
25 mitigation and restoration payments we would assess.

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1 Q And all the other payments if you went over
2 50 million, right?

3 A The only payment that would reduce would be
4 the mitigation and restoration payment.

5 Q And the mitigation and restoration payments
6 are established by 3407(c)(1), aren't they?

7 A Correct.

8 Q So, therefore, 3407(c) is subject to
9 3407(d)(1)?

10 A I would say that yes, it is.

11 Q And that's the case even though it doesn't
12 have the term "provided" in 3407(d)(1)?

13 A There's no term "provided" in this
14 paragraph.

15 Q And that's the same answer even though it
16 doesn't have the term "provided further" in that
17 paragraph, correct?

18 A There is no term "provided further" in that
19 paragraph.

20 Q Let's turn to 3407(d)(2)(a), the municipal
21 and industrial surcharge, which is on Plaintiffs'
22 Exhibit 340/9, the third box down 340/9.

23 Now, we can bring back up your testimony
24 from the deposition. You previously did not
25 identify this as a limitation to which 3407(c)(2) is

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1 subject. Is it or is it not a limitation to which
2 the 3407(c)(2) 50 million is subject?

3 A I believe we implement this as one of the
4 tools to achieve 50 million.

5 Q Is it a limitation to which 3407(c)(2) 50
6 million is subject is my question?

7 A I believe it is one of the tools for
8 achieving 50 million.

9 Q Is it a limitation, sir?

10 A It does not reduce the mitigation and
11 restoration charges unless it would exceed or
12 contribute to exceeding the non-discretionary
13 charges.

14 Q And, therefore, you do not consider it a
15 limitation?

16 A I would consider it, if it exceeded, it
17 would reduce -- it, in combination with the other
18 fees, exceeded the -- it would cause us to exceed 50
19 million; it would reduce the mitigation and
20 restoration charges.

21 Q And then let's go to 340/10, and the second
22 box we have the proportionality limitation. And
23 this is the provision that you previously described
24 as being a limitation subject to 3407 -- to which
25 3407(c)(2) is subject, correct?

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1 A We also described it during my deposition
2 testimony as just a provision, and we also
3 identified this is one of the provisions that
4 addresses allocation, not a reduction in payment.

5 Q All right. Let's go to your deposition
6 transcript at page 67. Let's go back one page. One
7 more page, please. And let's walk through this,
8 Doctor, so we can very clearly understand what your
9 testimony used to be. Let's begin at line 11 where
10 I asked you:

11 "And I want to go through the limitations
12 in subsection (d). That's what I'm turning to now."

13 And you said: "Okay."

14 "The first limitation, if you want to get a
15 copy of the statute there, is that the mitigation
16 and restoration charges are limited, shall not
17 exceed 30 million, October 1992 price levels, on a
18 three-year rolling average basis, correct?"

19 And you see your answer was: "That's the
20 second limitation."

21 And I asked: "And the first one is?"

22 And you responded: "Paragraph(d)(1)."

23 So let's go back Plaintiffs' Exhibit 340/8,
24 third box. Isn't that the very (d)(1) provision we
25 were just discussing here?

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1 A Yes, it is.
 2 Q So let's go back to your deposition
 3 transcript. And there not only did you call it a
 4 limitation, you corrected me, you told me it was a
 5 limitation, didn't you?
 6 A Yes, I did.
 7 Q So I said: "(d)(1). All right. And
 8 (d)(1) is the requirement that the estimate be
 9 reduced on a proportionate basis. Is that the one
 10 you're referring to?"
 11 And you said: "Correct."
 12 Next page.
 13 All right. Then let's turn to the first
 14 one. Let's turn to (d)(1). And we went through
 15 that.
 16 Then we turn to the second one, which is
 17 that mitigation and restoration charges shall not
 18 exceed 30 million. That's down at line 21.
 19 And you said: "Correct."
 20 And then I asked you: "And then the third
 21 limitation is that such additional annual payments
 22 shall be allocated not to exceed the \$6 per
 23 acre-foot for agricultural water, irrigation, and
 24 \$12 per acre-foot for municipal and industrial water
 25 sold and delivered, correct?"

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1 You said: "Correct."
 2 That's the third one. Then we go the
 3 ability-to-pay limitation.
 4 Correct.
 5 We'll call that number four. And the fifth
 6 would be the reduction to 50 million.
 7 You agreed: Correct.
 8 We finally talked in line 14 about the
 9 sixth limitation is the mitigation and restoration
 10 payment, the proportionality limitation. Correct?
 11 On your transcript?
 12 A Oh. Yes, you were reading the transcript
 13 correctly.
 14 Q And we finished with at line 22:
 15 "So we have a total of six limitations in
 16 3407(d). Agreed?"
 17 And what was your response at line 24?
 18 A "Agreed."
 19 Q There were six limitations including (d)(1)
 20 then, weren't there?
 21 A Yes, there were.
 22 Q And you didn't include the 3407(d) M&I
 23 surcharge as a limitation then, did you?
 24 A I did not.
 25 Q Now, in your deposition testimony -- I'll

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1 rephrase that, I'm sorry.
 2 Under your prior position, the only reason
 3 that the proportionality limitation is subordinate
 4 to the 50 million obligation is the, quote,
 5 "caveat," close quote, of the greatest degree
 6 practicable in the proportionality limitation,
 7 correct?
 8 A So I think we were using the word
 9 "limitation" in two different ways when we were
 10 going through the testimony that we later clarified
 11 through subsequent discussion. And at the time I
 12 believed it was to the greatest degree practicable
 13 that made proportionality subordinate to the
 14 direction to collect 50 million.
 15 Q Well, let's go to your deposition
 16 transcript, page 75, so we make clear what your
 17 prior position used to be. Lines 1 through 12.
 18 And you were asked at 7: So you're
 19 testifying that the Bureau is of the position that
 20 because of the greatest degree practicable term in
 21 that section, that, therefore, the proportionality
 22 limitation becomes subordinate to the charge to
 23 collect 50 million.
 24 A Yes.
 25 Q That was your testimony?

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1 A That was my testimony.
 2 Q That was your position then, right?
 3 A Yes, it was.
 4 Q If the term "to the greatest degree
 5 practicable" were deleted under your prior position,
 6 the limitation on the proportionality would become
 7 absolute, wouldn't it?
 8 A I believe so.
 9 Q That was your position then, wasn't it?
 10 A Yes, it was.
 11 Q Let's briefly go back to your memorandum of
 12 340/8. And let's turn to the provision with respect
 13 to the limitation on \$30 million. And that is in
 14 box -- next to last box.
 15 Now, this \$30 million limit has been in the
 16 statute since its beginning, hasn't it?
 17 A Which version of the statute?
 18 Q The original version of the statute has had
 19 the 3407(d)(2)(a) provision concerning the
 20 \$30 million on M&R charges, right?
 21 A Are you referring to the statute as passed
 22 or --
 23 Q Yes.
 24 A As passed, yes.
 25 Q And it's been Reclamation's position that

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1 that \$30 million limit becomes a requirement unless
2 non-M&R charges exceed 20 million, right?

3 A We were required to achieve 50 million;
4 therefore, we must maximize the 30 million.

5 Q And the only way that the \$30 million
6 wouldn't be a requirement under Reclamation's
7 position is if the non-M&R charges exceeded 20
8 million, right?

9 A Or if there was no need for the money or if
10 completion reduced the ceiling.

11 Q Fair enough, got that. But the primary
12 point is M&R charges had to go over 20 million in
13 order to get below the 30 million?

14 A Under today's conditions, yes.

15 Q And the restoration fund has never
16 collected more than 20 million in non-M&R charges,
17 has it?

18 A Not in a single year.

19 Q And it has no likelihood in the foreseeable
20 future that it will, does it?

21 A That would be unlikely.

22 Q But the \$30 million limit, that we just
23 reviewed and you testified, has been in the statute
24 since its enactment, hasn't it?

25 A Yes, it has.

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1 Q So, obviously, the statute anticipated that
2 M&R charges -- I'm sorry -- non-M&R payments could
3 be less than 20 million because, otherwise, the
4 \$30 million limit would be meaningless, wouldn't it?

5 A I would agree the \$30 million limit would
6 be meaningless if those other charges were greater
7 than 20 million.

8 Q So the circumstance that the non-M&R
9 charges were less than 20 million has been dealt
10 with in the statute since day one, hasn't it?

11 A In terms of?

12 Q The \$30 million limit.

13 A The \$30 million limit has been in the
14 statute since day one.

15 Q You wouldn't need the \$30 million limit if
16 non-M&R charges went over 20 million, would you?

17 A I would have to think about that. It seems
18 like the \$30 million limit may be -- may be
19 necessary to provide a cap on power -- no, never
20 mind. I can't think of a scenario where it would be
21 implemented.

22 Q Meaning, for clarity, that if non-M&R
23 charges were over 20 million, then the \$30 million
24 ceiling wouldn't be needed, would it?

25 A That would not be -- in every year? Can

534

1 you paint a more complete scenario for me, please?

2 Q We'll take any one fiscal year. The
3 ceiling of 30 million only becomes implicated when
4 non-M&R charges are less than 20 million, right?

5 A On a three-year rolling average?

6 Q On a three-year rolling average, right.

7 A Correct.

8 Q Right. So the only time the \$30 million
9 limit is relevant is if non-M&R charges are lower
10 than \$20 million on that three-year rolling average,
11 right?

12 A Correct.

13 Q So the statute has anticipated from day one
14 the circumstance that non-M&R charges would be lower
15 than 20 million on a three-year rolling average
16 basis, hasn't it?

17 A The statute provides for when
18 non-discretionary charges are less than 20 million.

19 Q Let's turn to the determination of the
20 proportionality limit. It is a mathematical
21 calculation, correct?

22 A Can we call it proportionality provision?

23 Q Provision. We'll let you call it the
24 proportionality provision.

25 A Okay.

535

1 Q The proportionality provision is a
2 mathematical calculation, isn't it?

3 A Yes, it is.

4 Q And if three numbers are known in a fiscal
5 year, then the proportionate amount of M&R charges
6 for CVP power contractors can be calculated knowing
7 just three items. I'm going to go through them.
8 First, the M&R fund collections from CVP water
9 contractors. Two, the CVP repayment allocation for
10 irrigation contractors. And, three, the CVP
11 repayment allocation for municipal and industrial
12 water contractors, correct?

13 A That's correct.

14 Q So if you know those three data points, you
15 could determine the proportionality provision in
16 that fiscal year applicable to CVP power
17 contractors, right?

18 A As long as we have the ten-year rolling
19 average.

20 Q Subject to the ten-year rolling average,
21 yes. Correct?

22 A Correct.

23 Q And there are just two reasons why
24 Reclamation cannot, quote, "compute," close quote,
25 exact proportionality when imposing the mitigation

536

1 and restoration fund charge, and those are, one,
2 estimated water deliveries in the fiscal year and,
3 two, knowing the respective repayment allocation on
4 a ten-year rolling average basis, right?

5 A Correct.

6 Q Let's go to Plaintiffs' Exhibit 281.

7 Reclamation has done feasibility studies in
8 which the proportionality limit has been applied and
9 analyzed, hasn't it?

10 A In what sense are you using the term
11 "feasibility study"?

12 Q Well, I'm just looking at 281 is a
13 memorandum from Ms. Thomson to the commissioner
14 analyzing the impact of imposing the repayment
15 allocation at the 2, 3, 5, and 10 percent basis,
16 right?

17 A We have done these calculations. We would
18 not consider this a feasibility study.

19 Q All right. Let me ask you about the term
20 "target allocation." Are you familiar with that
21 term from the revised interim guidelines?

22 A Yes, I am.

23 Q And the target allocation refers to the
24 allocation to CVP water and power based on their
25 respective repayment allocations, right?

537

1 A I would have to refer to the exact
2 definition in the document.

3 Q Fair enough. Does my description seem
4 petty close to it?

5 A Seems consistent.

6 Q All right. Does Reclamation -- Reclamation
7 does not calculate the target allocation each year
8 because it hasn't had to calculate it, correct?

9 A We know that the target allocation would
10 not modify the mitigation and restoration payments.

11 Q And, therefore, you don't even bother
12 calculating it, do you?

13 A That's correct.

14 Q Let's turn to --

15 A Actually, I need to clarify. If they do
16 calculate it, it was not shared with me when I was
17 the program manager.

18 Q I'm sorry. Say that again.

19 A I may not be aware of what calculations all
20 go on within the finance division, but to my
21 knowledge, there was no target allocation shared
22 with me in my capacity as the program manager.

23 Q Understood. And you didn't calculate it?

24 A I did not.

25 Q Let's go to Plaintiffs' Exhibit 265. And I

538

1 just want to focus on that --

2 A Mine is blank.

3 Q It should be right in front of you in the
4 screen. And I just have one question for you.

5 In the second paragraph, it says a report
6 -- and this is, again, from Mr. Murillo who is then
7 deputy commissioner. And it talks about a current
8 report on the CVPIA contractor financial
9 obligations, impacts, and challenges was released
10 for contractor and contractor association comments
11 and is now being revised based on the comments
12 received.

13 Do you see where I'm referring to?

14 A Yes, I do.

15 Q Now, I realize this memo predates your
16 taking the position as restoration fund manager in
17 2013. My question simply is: Were you involved in
18 the process of the subsequent comments and revisions
19 with respect to this report?

20 A I believe I provided comments on one of the
21 chapters.

22 Q Okay. Let's go to Plaintiffs' Exhibit 273
23 now. This is a briefing for Michael Connor who was
24 then the commissioner of Reclamation, yes?

25 A That's what the memo says.

539

1 Q All right. It's April 30th, 2013. Let's
2 go to the second page. At the very bottom you'll
3 see "prepared by Katherine Thompson." Did you know
4 Ms. Thompson?

5 A Yes, I did.

6 Q And was she in fact the assistant regional
7 director for business services?

8 A Yes, she was.

9 Q Was she a direct report to Mr. Murillo?

10 A I can't picture the org chart at the time.
11 I know we changed our organization structure
12 recently.

13 Q All right. Let's go back to the first
14 page. And in the fourth paragraph it begins with:
15 "The solicitor's office has advised Reclamation..."

16 If you take a moment and read through the
17 first three sentences of that paragraph.

18 A Okay.

19 Q So it states that: "The solicitor's office
20 has advised Reclamation that annual appropriations
21 language determines whether Reclamation has the
22 discretion to collect less than the full amount of
23 the mitigation payment from CVP contractors."

24 So it was the position of the Mid-Pacific
25 Region at that point, apparently, that it was the

540

1 **appropriations language that determined whether**
 2 **there was discretion to collect less than the,**
 3 **quote, "full amount," right?**

4 MR. OLIVER: Object. There's no foundation
 5 laid for asking Dr. Mooney about this April 30, 2013
 6 memorandum -- there's no foundation that he authored
 7 this or received it or involved in its production,
 8 so there's no foundation.

9 THE COURT: I'll let the witness answer if
 10 he can.

11 THE WITNESS: I was not involved in this
 12 memo.

13 BY MR. RALSTON:

14 **Q Is that advice that you see in that memo**
 15 **consistent with your understanding when you became**
 16 **the director of the restoration fund in 2013?**

17 A We believe it is the combination of
 18 appropriations language and the CVPIA statute
 19 itself.

20 **Q So your position would be that the language**
 21 **I just read in Exhibit 273 is wrong?**

22 A There's more to it than that.

23 **Q So Ms. Thompson was at a minimum**
 24 **incomplete?**

25 A Or she was summarizing.

541

1 **Q When she was advising the commissioner of**
 2 **the Bureau of Reclamation?**

3 A I'm not sure who she was specifically
 4 advising.

5 **Q Let's go to the top of the document,**
 6 **Doctor. Doesn't it say: "Briefing for Michael**
 7 **Connor, Commissioner"?**

8 A Yes, it does.

9 **Q Did you ever have the occasion to meet**
 10 **Michael Connor, the commissioner?**

11 A I don't believe I met him as commissioner.

12 **Q You wrote documents to him as commissioner,**
 13 **didn't you?**

14 A We write documents for meetings that occur,
 15 and the titles are given to us.

16 **Q Was Michael Connor the commissioner of the**
 17 **Bureau of Reclamation?**

18 A Yes, he was.

19 **Q Next is Plaintiffs' Exhibit 297. This is**
 20 **an e-mail from you to Jeffrey Rieker of March 30th**
 21 **of 2014. Who is Mr. Rieker?**

22 A I'm not sure if he was the special
 23 assistant or the D.C. liaison at the time.

24 **Q I'm sorry, who?**

25 A He could have been either the special

542

1 assistant in the regional office or the D.C.
 2 liaison.

3 **Q So he was in Washington or in Sacramento?**

4 A He was in one of those.

5 **Q All right. And you copied Ms. Williams and**
 6 **Mr. Woodley and Ms. Bryant. And if you look in the**
 7 **attachments column or line, you'll see: Complete**
 8 **draft report, contractor financial obligations,**
 9 **impacts and challenges, 12-31-2012.**

10 A I'm sorry, this says he was a special
 11 assistant at the time.

12 **Q Special assistant, all right.**

13 **And so in the attachment line, is the**
 14 **contractor financial obligations, impacts and**
 15 **challenges report essentially the same one we talked**
 16 **about just a moment ago that you didn't have a**
 17 **direct involvement at that point, but now did?**

18 A This looks like it's an updated version.

19 **Q So you were involved in the updated**
 20 **version?**

21 A I provided comments on one of the chapters.

22 **Q If you turn your attention to paragraph**
 23 **three, take a moment to review that. And you state**
 24 **there: We believe we already have the ability to**
 25 **achieve proportionality with changes to our annual**

543

1 **appropriations language and are working with Western**
 2 **on understanding how all the financing might work**
 3 **out and how we might mitigate potential unintended**
 4 **consequences.**

5 **That was your belief as of March 30th,**
 6 **2014, correct?**

7 A That's correct.

8 **Q Is there any difference between your**
 9 **belief, as stated in paragraph 3 of Exhibit 297, and**
 10 **Ms. Thompson's position in her memorandum to**
 11 **Commissioner Connor in Plaintiffs' Exhibit 273?**

12 A I don't know.

13 **Q Let's compare them. Let's go to 273 again.**
 14 **Let's see what Ms. Thompson said. Let's put the**
 15 **language up side by side, paragraph three and the**
 16 **third paragraph in 273.**

17 **Take a moment and review those and tell us**
 18 **how your paragraph three differs at all from the**
 19 **first sentence of Ms. Thompson's advice to**
 20 **Commissioner Connor?**

21 MR. OLIVER: Same foundation objection as
 22 to what someone else wrote, not him.

23 THE COURT: I'll take his answer.

24 THE WITNESS: So this may be a case where I
 25 had not caught up to where Katherine Thompson's

544

1 understanding was. So we don't -- we have limited
2 ability to influence our annual appropriations
3 language, and so I think that my statement that I
4 thought that we could do something, Katherine
5 Thompson has not identified that we could do
6 something. It just identifies that annual
7 appropriations language could change our
8 collections.

9 **Q How does that differ from yours?**

10 A In terms of whether Reclamation would be
11 able to change its appropriations language.

12 **Q Help me understand that. Congress enacts
13 the appropriations language, right?**

14 A Correct.

15 **Q Reclamation doesn't change the
16 appropriations language? Does it?**

17 A Correct.

18 **Q So what's the difference between your point
19 3 and this again?**

20 A We were exploring whether or not, under my
21 memo, if Reclamation could somehow convince all the
22 different steps up through Congress's appropriations
23 language. I think that Katherine had not thought
24 through how we might be able to do that or not. If
25 she had, it was not identified in this memo and

545

1 could have been communicated in the discussions in
2 person during that meeting.

3 **Q All right.**

4 A We have page limitations on these memos, so
5 we frequently cut out a huge amount of the
6 background information and we save that for the
7 meeting itself.

8 **Q I'm just talking about your paragraph
9 three, Doctor, but we'll move on.**

10 Let's focus just on your paragraph three
11 where you say: We already have the ability to
12 achieve proportionality changes to our annual
13 appropriations language.

14 Now, by that, did you mean that there is no
15 need to change the CVPIA itself, correct, to
16 accomplish proportionality?

17 A By that, I meant if Congress sends
18 different appropriations language -- passed
19 different appropriations language, that would modify
20 our collection. That was my understanding at the
21 time.

22 **Q And permit you to apply for
23 proportionality, right?**

24 A We would follow what the change in
25 appropriations looked like.

546

1 **Q And, therefore, the appropriations language
2 would control over the CVPIA, right?**

3 A I would have to know what specific
4 appropriations language you're proposing, and I
5 would probably would go to my solicitors to
6 understand the consequences.

7 **Q I'm talking about the language that you
8 expressed a belief about, sir, in your memo. What
9 belief did you have as to the language that you were
10 talking about?**

11 A I believed if Congress passed different
12 appropriations language, that could change what we
13 collected.

14 **Q All right. So let's go to Exhibit 309, an
15 e-mail from you to Mr. Joseph Larocco of May 6,
16 2014. Who is Mr. Larocco?**

17 A He was the budget analyst assigned to the
18 CVP restoration fund.

19 **Q And he was in Sacramento or Washington?**

20 A He was in Sacramento.

21 **Q And if you would read the second paragraph
22 that begins with, "Well, we should talk through..."**

23 And in the second sentence you state: "I
24 actually think the current Act could support this
25 interpretation without modification."

547

1 **Now, the term "current Act," did you mean
2 the CVPIA?**

3 A I'm looking through --

4 **Q Sure, I'm sorry, take your time.**

5 A I should preface this, I was wrong, but I
6 thought we could try, if that's something the
7 regional director wanted to risk a different party
8 litigating us.

9 **Q We'll get to why you were wrong in a
10 minute. Let's first get to what you were talking
11 about.**

12 **Is the "current Act" the CVPIA?**

13 A Yes, it was.

14 **Q And the proposal in the first sentence
15 you're talking about is to apply proportionality to
16 the \$50 million ceiling, not actual collection
17 receipts. So what did you mean by that, the
18 \$50 million ceiling?**

19 A I was trying to get to a place where we
20 could understand what power might reasonably have
21 expected to pay under the CVPIA, and I thought that
22 if it at all worked out where we got all the
23 non-discretionary charges as Congress had intended,
24 power could expect to pay a proportional amount of
25 that \$50 million indexed. So I thought that might

548

1 be a compromise that may work for power.

2 **Q So you were proposing there to use the**
3 **\$50 million ceiling rather than the \$30 million**
4 **ceiling as the parameter; is that correct?**

5 A I had never proposed using the \$30 million
6 ceiling as the parameter.

7 **Q I'll rephrase.**

8 **So you were proposing to use the**
9 **\$50 million ceiling in lieu of the \$30 million**
10 **ceiling?**

11 A I had never proposed using the \$30 million
12 ceiling.

13 **Q I didn't say you did. I'm saying you used**
14 **the 50 million instead of the 30. You were**
15 **substituting one for the other, weren't you?**

16 A There is no reason to use the \$30 million
17 ceiling. Proportionality is all funds collected
18 under this title, so it would include not just the
19 \$30 million mitigation and restoration payments, but
20 also the non-discretionary charges.

21 **Q Doctor, let's return to what you were**
22 **proposing on May the 6th of 2014. Were you**
23 **proposing to apply proportionality to the**
24 **\$50 million ceiling, yes or no?**

25 A Yes, I was.

549

1 **Q Yes. And the current statute, plaintiffs**
2 **contend, applies to proportionality to water**
3 **payments, an entirely different concept, right?**

4 A How do you characterize the alternative?

5 **Q I'll go back to what Reclamation does.**
6 **The current Reclamation approach is the**
7 **\$30 million is an absolute requirement on an**
8 **inflation-adjusted basis, correct?**

9 A For all practical sense, because we do not
10 get the non-discretionary payments.

11 **Q And you were proposing to apply**
12 **proportionality using a \$50 million ceiling in this**
13 **proposal, right?**

14 A Correct.

15 **Q And your position was then that the current**
16 **Act, the CVPIA, could support doing that, correct?**

17 A Correct.

18 **Q Make sure the -- correct, is what you said?**

19 A Yes.

20 **Q You then close with the proposed language,**
21 **which I take it is the senate language that's being**
22 **discussed in the e-mail below; is that what you're**
23 **referring to?**

24 A Yes.

25 **Q "...could potentially support that**

550

1 **interpretation, too, but it would be somewhat**
2 **disingenuous."**

3 **Why would it have been disingenuous?**

4 A I think it would have been a stretch.

5 **Q How so?**

6 A That there is probably -- we'd have to try
7 to understand what the senate language was getting
8 to versus whether or not we could say that we just
9 use the 50 million.

10 **Q So it would have been disingenuous for you**
11 **to take your proposal and try to put it into the**
12 **senate language?**

13 A The senate language probably was poorly
14 worded, and so it would not have been what we
15 thought the intent might have been behind the senate
16 language.

17 **Q The senate language was poorly worded; is**
18 **that what you're saying?**

19 A Yes.

20 **Q Let's go to Plaintiffs' Exhibit 341. This**
21 **is an e-mail of July the 1st, 2014 from Ms. Bryant**
22 **to you, "Subject: Appropriations language." Take a**
23 **moment to review that.**

24 A Okay.

25 **Q In the e-mail two paragraphs down, it**

551

1 **begins on Thursday, July 26, 2014, at 10:25 p.m.,**
2 **you were writing to Brenda. And it says: "If this**
3 **helps when you talk to Bob."**

4 **Who was the Bob you refer to there?**

5 A That would have been Bob Wolf.

6 **Q And who is Bob Wolf?**

7 A I'm not sure of his exact title. He's the
8 individual who oversees Reclamation's budget.

9 **Q And this was discussing appropriations**
10 **language in connection with the budget, I gather?**

11 A Guessing that Brenda was exploring some of
12 the power payment issues.

13 **Q So if you go down towards the bottom of the**
14 **page, it begins with: "My assertion to test out Bob**
15 **would be..."**

16 **Now, what was the testing out of Bob as you**
17 **were trying to accomplish?**

18 A I think I would have been checking to see
19 if Bob had the same understanding that we did of
20 these different statements.

21 **Q All right.**

22 A And how that would relate to our
23 requirements under appropriations law in the CVPIA.

24 **Q Go just beneath that to the paragraph**
25 **numbered 2. And you say:**

552

1 Since the appropriation doesn't give us a
2 specific dollar amount, we define the 'full amount
3 of 3407(d),' administratively according to the text
4 of the CVPIA, and that would include: The
5 \$30 million cap, A. B, limits on per acre-foot
6 charge to Ag and M&I. And, C, proportionality to
7 the greatest degree practicable, whatever that
8 means.

9 Do you see where I'm referring to?

10 A Yes, I do.

11 Q So help us understand. This proposal that
12 you had or concept is that Reclamation could
13 administratively define the term the "full amount of
14 3407(d)" in the appropriations language?

15 A This was not a proposal or a concept.

16 Q Ah, it was an assertion, I guess, an
17 assertion, that's your language right above there.
18 We'll call it your assertion, how's that?

19 A A test to see if I was correct.

20 Q Your testing assertion; you comfortable
21 with that term?

22 A My assertion to check with Bob to see if I
23 was correct.

24 Q We'll term it your assertion.

25 Your assertion then is: Since the

553

1 appropriation does not give a specific amount,
2 Reclamation could administratively define the term
3 "full amount," quote, unquote, couldn't they?

4 A According to the text of the CVPIA.

5 Q And that was your assertion?

6 A That the full amount would be computed
7 based on the CVPIA.

8 Q Administratively by Reclamation, right?

9 A I don't know what you mean -- I don't know
10 what I meant by "administratively," but I know that
11 we compute the full amount by working through what
12 we believe the steps are in the law.

13 Q Well, who else would do it administratively
14 other than the Bureau of Reclamation?

15 A The Department of Interior could do it or
16 OMB could do it.

17 Q Western could do it and you'd get a very
18 different answer, wouldn't you?

19 A Western?

20 Q Yes.

21 A Probably. Actually, I don't think they
22 could. They wouldn't know the water deliveries.

23 Q Reclamation would know that, wouldn't they?

24 A Yes, we would.

25 Q Let's go to the next page, 341/2, and right

554

1 above your signature line you state:

2 "After our discussion today, I'm kind of
3 looking forward to the inevitable audit."

4 Well, what was your discussion of July 26,
5 2014, -- I'm sorry -- June 26, 2014, with Ms. Bryant
6 that would have generated thoughts of an inevitable
7 audit?

8 A I don't recall what the specific discussion
9 was, but it looks like we were talking about our
10 appropriations language and our restoration fund
11 collections.

12 Q Did the inevitable audit ever happen?

13 A We've been audited -- I think our last
14 audit was Government Accounting Office.

15 Q Was it on this issue?

16 A It was on expenditures for the three
17 California water programs.

18 Q Let's go to 349. Now, this is a memo from
19 you of September 16, 2014, for the Regional
20 Director's Office, correct?

21 A Correct.

22 Q And it's a review of legal options. And
23 you go down to the first paragraph in "Discussion,"
24 and if you'd look through there. Tell me when
25 you're finished.

555

1 A Okay.

2 Q And you discussed that the modifier, quote,
3 "to the greatest degree practicable," close quote,
4 in section 3407(d)(2)(a) makes proportional
5 collections subordinate to the requirement to
6 collect 50 million under section (c)(2) with no more
7 than 30 million from the mitigation and restoration
8 payment.

9 Was that a correct statement when it was
10 made?

11 A That was my understanding at the time.

12 Q You make no mention in that statement
13 concerning "provided" or "provided further" as a
14 requirement for a limitation on the 50 million, do
15 you?

16 A I do not.

17 Q Go down to the "Recommendation" section.
18 And I'll say in advance, Doctor, I'm only using the
19 term "recommendation" because that's in your paper.
20 And I recognize that -- do you consider this a
21 recommendation if it has that title?

22 A We're forced to fill out a specific format
23 for briefing papers, and so recommendation is where
24 we give the -- whoever the decisionmaker is an
25 option to consider accepting or rejecting. So

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1 frequently that's just something to throw up, and it
2 helps clarify their direction on the issue, so I
3 apologize if that's misleading. I don't have
4 discretion on the format of these papers.

5 **Q So you use the term "recommendation" even**
6 **though you're not making a recommendation is your**
7 **point?**

8 A It's something for the decisionmaker to
9 consider.

10 **Q Utterly disconnected from your view as to**
11 **whether they should do it or not?**

12 A Sometimes it's consistent with my views.
13 Sometimes it's the larger team. Sometimes it's the
14 best of the bad. We have choices.

15 **Q Let's turn to the third sentence of that**
16 **paragraph where you say:**

17 "Depending on handling of the litigation,
18 Reclamation should formally notify stakeholders on
19 the lack of administrative discretion so that
20 customers can pursue legislative avenues."

21 **What did you mean by that statement?**

22 A That would have meant that I wasn't sure
23 what the relationship was to litigation or our legal
24 position, but that if we did not have the discretion
25 to do something in order to assist power customers

557

1 we should clearly state that their remedy would be
2 legislation.

3 **Q And at that point, apparently, your view**
4 **was there was no administrative discretion to**
5 **interpret the CVPIA to accomplish proportionality,**
6 **correct?**

7 A Correct.

8 **Q Now, we went over a number of memos**
9 **previously where you talked about administrative**
10 **discretion to interpret the CVPIA, right?**

11 A Correct.

12 **Q But now you had concluded there was none,**
13 **right?**

14 A Correct.

15 **Q September 16, 2014, right?**

16 A Correct.

17 **Q About, what, two weeks after this**
18 **litigation was filed, correct?**

19 A Correct.

20 **Q Let's turn to the appropriations process**
21 **briefly.**

22 **The initial version of each CVPIA**
23 **appropriations legislation is drafted by the**
24 **Mid-Pacific Region of Reclamation, right?**

25 A My screen is not on. Oh, never mind,

558

1 sorry.

2 **Q Whatever. We're not talking about a**
3 **document.**

4 **The initial version of the CVPIA**
5 **appropriations legislation is drafted by the**
6 **Mid-Pacific Region, correct?**

7 A I don't know who drafted the first version
8 of the appropriations language we used.

9 **Q But it's drafted in the Mid-Pacific Region,**
10 **isn't it?**

11 A I don't know who provided us the first
12 page. I know there was a discussion between
13 Reclamation, Interior, and OMB, at some point in
14 time, and we were provided language at that time,
15 and that's what we've used to date.

16 **Q Let's go to your transcript at page 139.**
17 **Line 17. You talk about request for the admission,**
18 **and I asked you at line 23:**

19 "Now, isn't it a fact that you actually
20 prepare a draft of the language, isn't it, your
21 office, correct?"

22 And you said: "That is correct."

23 **Line 19 said "...the appropriations**
24 **language submitted..."**

25 **Was that a correct statement when you made**

559

1 it?

2 A We do prepare a draft.

3 **Q Your office prepares a draft?**

4 A The budget office, MP Region's budget
5 office.

6 **Q In fact, you were involved in the**
7 **preparation of the drafts personally, aren't you?**

8 A I am not.

9 **Q Don't you work with respect to the**
10 **collections announced to go into it?**

11 A I do not personally.

12 **Q You don't and did not.**

13 A Every year when I was administrator I
14 submitted an edit -- proposed edit to the language
15 that would strike a portion of the appropriations
16 language, but that was my only involvement in it.

17 **Q So you provided edits to the language?**

18 A Correct.

19 **Q But you don't consider that to be involved**
20 **in the process; is that your testimony?**

21 A I was not the person who was involved in
22 the collections estimate.

23 **Q And the amount that is submitted as part of**
24 **this draft legislation, which you only edited and**
25 **had no involvement in --**

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1 A You specifically asked whether I was
2 involved in the collections estimate?

3 Q Yes.

4 A I was not involved in the collections
5 estimate.

6 Q So you were involved in the drafting of the
7 legislative drafts that were prepared by Mid-Pacific
8 Region, correct?

9 A I submitted an edit to it.

10 Q All right. The amount submitted by
11 Mid-Pacific Region is not based on the \$50 million
12 number in section 3407 of the CVPIA, is it?

13 A It's based on the amount we reasonably
14 expect we can collect.

15 Q Right. It's based on estimated
16 collections, correct?

17 A And the direction to collect 50 million is
18 part of how we reach that.

19 Q It's made of collections?

20 A Correct.

21 Q And not the 50 million specified, correct?

22 A Well, the 50 million specified is used in
23 order to estimate anticipated collections.

24 Q Well, let's go to your transcript at 142.
25 Don't you say at line four: We do not ask for the

562

1 quote, "variability" in the full amount referenced
2 in the annual Appropriations Act because that full
3 amount is your target, right?

4 A I think we say there's variability due to
5 the high, medium, and low years of the three-year
6 rolling average.

7 Q Let's go to your deposition transcript at
8 215, line 3 through 17 where we discuss that matter.

9 I ask: "Well, you didn't collect the
10 direction to collect the full amount in the
11 appropriations statute either, did you?"

12 You answered: "The full amount varies from
13 year to year based on uncertainty in water
14 deliveries."

15 Is that correct?

16 A That is what creates part of the low,
17 medium, and high.

18 Q So there is variability in the full amount,
19 correct?

20 A Correct.

21 Q Reclamation, however, did not collect the
22 collection ceiling, to use your term, referenced in
23 the Appropriations Act for FY '14, did it?

24 A There was a shortfall in FY '14. That was
25 collected in the following year.

561

1 50 million; we base on our estimates?

2 A That's correct.

3 Q That statement is correct?

4 A Yes, it is.

5 Q Now, in the annual appropriations acts,
6 Congress has not directed the collection of a fixed
7 specified amount of mitigation or restoration
8 charges from CVP water and power contractors,
9 correct?

10 A It has specified a total amount to be
11 derived from the restoration fund.

12 Q It uses the term "full amount," quote,
13 unquote, doesn't it?

14 A In specifying restoration and mitigation
15 charges it uses the term "full amount."

16 Q It does not use a specified dollar amount,
17 does it?

18 A Not specific to mitigation and restoration
19 charges.

20 Q And the annual Appropriations Act for the
21 CVPIA do not direct Reclamation to ignore the CVPIA
22 proportionality limitation, does it?

23 A There is no reference to proportionality in
24 the annual appropriations language.

25 Q And Reclamation admits that there is,

563

1 Q So Reclamation did not collect the full
2 amount referenced in the Appropriations Act for FY
3 2014, did it?

4 A We believe the full amount is the
5 three-year rolling average so you can't take one
6 year in isolation.

7 Q And it didn't collect the full amount for
8 FY 2015 either, did it?

9 A That question still neglects the three-year
10 rolling average that requires considering more than
11 one fiscal year.

12 Q So your answer is "yes, but," is that your
13 answer?

14 MR. OLIVER: Objection. Mischaracterizes
15 his testimony.

16 THE COURT: Overruled.

17 BY MR. RALSTON:

18 Q Is that your answer?

19 A My answer is we collect according to the
20 three-year rolling average.

21 Q And the full amount therefore varies
22 depending upon collections and the three-year
23 rolling average?

24 A The full amount is the three-year rolling
25 average.

564

1 **Q I see. So it's never really known?**
 2 A We record what we collect.
 3 **Q I understand you record it, but it's**
 4 **therefore only known after you collect it?**
 5 A Correct.
 6 **Q Never known in advance?**
 7 A There's always some uncertainty what
 8 revenues we will get in a year.
 9 **Q So your office gets to determine what the**
 10 **full amount is, doesn't it?**
 11 A No, we do not.
 12 **Q Based on collections?**
 13 A We believe that we are supposed to collect
 14 under the three-year rolling average.
 15 **Q And, in fact, you can use biased water**
 16 **estimates to change the amount of your collections,**
 17 **don't you?**
 18 A No, we cannot.
 19 **Q And did so in 2014?**
 20 MR. OLIVER: Objection. That wildly
 21 mischaracterizes his testimony.
 22 THE COURT: Overruled. I'll let him
 23 answer.
 24 THE WITNESS: I'm not sure I can answer
 25 that if we just take one year in isolation. We have

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1 to use the three-year rolling average.
 2 BY MR. RALSTON:
 3 **Q Collections determine the full amount is**
 4 **your testimony, isn't it?**
 5 A Collections are one of the pieces of the
 6 full amount.
 7 **Q And your office can influence the amount of**
 8 **collections?**
 9 A Which office are you referring to?
 10 **Q The Mid-Pacific Region.**
 11 A The Mid-Pacific Region can influence what
 12 year the collections can occur in, but we cannot
 13 change the three-year rolling average.
 14 **Q You could influence what fiscal year they**
 15 **fall in, can't you?**
 16 A Yes, we can.
 17 THE COURT: Would this be a good point for
 18 a break, Mr. Ralston?
 19 MR. RALSTON: It would, Your Honor, and I
 20 think I'm very close to being done.
 21 THE COURT: All right. Let's reconvene at
 22 11:15.
 23 (Recess taken from 10:58 to 11:17).
 24 THE CLERK: All rise. The Court is again
 25 in session.

566

1 THE COURT: Thank you. You may be seated.
 2 Okay. Let's go ahead.
 3 MR. RALSTON: Thank you, Your Honor.
 4 BY MR. RALSTON:
 5 **Q Plaintiffs' Exhibit 293, and I have two or**
 6 **three questions on this, Doctor. First, it shows**
 7 **notes of a February 25, 2014 event and participants.**
 8 **Are these your notes?**
 9 A Yes, they are.
 10 **Q And this concerns "Central Valley Project**
 11 **Improvement Act Power Payments Coordination." What**
 12 **was the purpose of the meeting that's reflected in**
 13 **these notes?**
 14 A The purpose was to meet with Western and
 15 get a better understanding of what the full suite of
 16 concerns power customers had with how we administer
 17 the CVPIA.
 18 **Q At the very bottom of the page in a**
 19 **paragraph numbered two, it talks about "Pathway to**
 20 **Proportionality (Highest Priority): Payments**
 21 **consistent with cost allocation."**
 22 **To what does the Pathway to Proportionality**
 23 **refer?**
 24 A That was a name, I'm not sure who came up
 25 with it, about what actions we could take to get

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1 closer to a proportional allocation of mitigation
 2 and restoration fund collections, acknowledging that
 3 we didn't think we could get all the way to strict
 4 proportionality. We thought there might be options
 5 to make progress towards it.
 6 **Q And who gave it the description "Highest**
 7 **Priority" in the parens?**
 8 A I would have marked that based on the
 9 feedback from Western. We -- at the time we were
 10 receiving a lot of different comments on the CVPIA,
 11 and it was a little bit difficult for us in
 12 Reclamation to sort through what was the core issue
 13 and what were we really trying to achieve.
 14 **Q So it wasn't Reclamation's highest**
 15 **priority, was it?**
 16 A It was identified as power customers'
 17 highest priority.
 18 **Q And if you go above there in line 18, it**
 19 **talks about Dave and Autumn. Does the Dave refer to**
 20 **you?**
 21 A Yes, it does.
 22 **Q And Autumn is Autumn Wolfe?**
 23 A Yes.
 24 **Q And it says: "Implications from Shifting**
 25 **Program Funding to Water and Related."**

568

1 Does "Water and Related" refer to the
2 Appropriations Act?

3 A It refers to the water-related resources
4 fund.

5 Q And what is that fund?

6 A That is one of the funds that Reclamation
7 has to undertake activities.

8 Q And so you were discussing shifting program
9 funding to that fund?

10 A Of using funding from water-related
11 resources to undertake the programs instead of the
12 restoration fund.

13 Q And that is a fund that is subject to
14 appropriations, correct?

15 A Not super familiar with that fund. I
16 believe it is.

17 Q Okay. The next is 300. A document
18 entitled "Project Charter," "Version History," which
19 reference your February 25th meeting.

20 What is this document about?

21 A That document is an attempt to outline what
22 activities we would undertake -- well, it's an
23 attempt to gain buy-in with management within
24 Reclamation on how we would approach addressing
25 power's concerns.

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1 Q And if you go down about four line, there's
2 a -- four paragraphs, it says: "The Northern
3 California Power Agency proposed this project as
4 'Pathway to Proportionality' in 2008..."

5 Is it your recollection that Northern
6 California Power Agency had been urging a pathway to
7 proportionality for that long?

8 A That must have been my understanding at the
9 time.

10 Q The next is 337, and we have now a document
11 called "Project Management Plan," and what is the
12 purpose of this document?

13 A A project management plan would have been
14 my tool as the project manager to document how we
15 would approach addressing the goals and objectives
16 in the charter.

17 Q For the pathway to proportionality?

18 A A pathway to proportionality was one
19 element. With feedback from stakeholders, the
20 effort was broadened to be an overall finance plan
21 for the CVPIA of which addressing power's concerns
22 would have been one of the elements.

23 Q And if you'd go to 337/2, in the
24 "Background" section, if you take a moment and
25 review the first paragraph that begins with "The

570

1 secretary."

2 Finished?

3 A Yes.

4 Q Sorry. So in the -- in that paragraph, the
5 third sentence which begins: "Mitigation and
6 restoration payments are limited to no more than 30
7 million..." and it goes on and it ends with, about
8 three lines down, quote: "...taking into account
9 all funds collected under this title, to the
10 greatest degree practicable, be assessed in the same
11 proportion, measured over the ten-year rolling
12 average, as water and power users' respective
13 allocations for the repayment of the Central Valley
14 Project," correct?

15 A Correct.

16 Q So you were describing in that sentence
17 that mitigation and restoration payments are limited
18 to, among other items, the proportionality
19 limitation, correct?

20 A I thought we agreed to refer to it as
21 proportionality provision.

22 Q I'm sorry, I slipped from that because I
23 went to the term "limited" that you had used in the
24 sentence.

25 Proportionality provision is one of the

571

1 matters you say here that mitigation and restoration
2 payments are limited by, correct?

3 A I use the word "limited" in the sentence.

4 Q And you were the author of this document,
5 correct?

6 A I was the primary party responsible, so I
7 would have drafted some of the text and been the
8 authority on which comments got incorporated or not
9 incorporated.

10 Q And so this paragraph and that sentence
11 reflect your prior testimony position on this issue,
12 right?

13 A It just was a listing of the different
14 elements in 3407(d)(2)(a).

15 Q Which is how you previously testified was
16 the case, right?

17 A We understood those were the different
18 aspects in how we administer mitigation and
19 restoration payments.

20 Q Very good.

21 And in that paragraph there's no mention of
22 limitations based on the term "provided," is there?

23 A There is not.

24 Q Or on the term "provided further," is
25 there?

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1 A Not in terms of the statute. The word
2 "provided" is above, but --

3 **Q In the next paragraph you note: "The**
4 **historical practice for collections maximized the**
5 **revenue from water deliveries and require power**
6 **customers to fund the remaining requirements." And**
7 **you state, quote, "Power has disproportionately**
8 **contributed 33 percent in the restoration fund**
9 **compared to a cost allocation to power of 24 percent**
10 **between 2002 and 2012."**

11 **That was a correct statement when you made**
12 **it, wasn't it, Doctor?**

13 A To the best of my knowledge, it was.

14 **Q In the next three sentences you talk about**
15 **how in 2009 cost to acquiring project power exceeded**
16 **the equivalent market rate, correct?**

17 A That's the words in the document.

18 **Q And the same occurred in 2012, correct?**

19 A That's the words in the document.

20 **Q In the next paragraph you state that:**
21 **Collections for the CVPIA restoration fund comprised**
22 **a quarter to one-third of the costs to generate CVP**
23 **power.**

24 **Was that statement correct when you made**
25 **it?**

573

1 A I believe it was correct when I made it.

2 **Q Let me, on that point, just explore for a**
3 **minute, the three-year rolling average concept that**
4 **you had testified about earlier. As I understand**
5 **the three-year rolling average, as you testified**
6 **about it, that there never really is a definitive**
7 **number at the end of the day; you're always**
8 **adjusting it in the three-year rolling average.**

9 **Is that a fair characterization and, if**
10 **not, describe it for me correctly.**

11 A I believe there is a definitive number in
12 terms of what receipts we received.

13 **Q In a given year, right?**

14 A In a given year we receive receipts and we
15 record those.

16 **Q And so how does a three-year rolling**
17 **average, in your view, play into that analysis?**

18 A Analysis in this document or --

19 **Q No. Generally, with respect to the**
20 **calculation of the ceiling for each year.**

21 A The three-year rolling average is how we
22 calculate the ceiling for each year, and the
23 difference between the receipts and the direction to
24 collect 50 million and maximizing the mitigation and
25 restoration payments plays out through the

574

1 subsequent years.

2 **Q But each year you do determine a shortage**
3 **or overage, don't you, if there is one?**

4 A Are you referring to U.S. Bureau of
5 Reclamation?

6 **Q Yes.**

7 A Yes, Bureau of Reclamation does.

8 **Q And that brings finality to that fiscal**
9 **year, doesn't it?**

10 A What do you mean by "finality"?

11 **Q You know what the collections are with a**
12 **final definitive number in order to determine the**
13 **shortage or the overage, right?**

14 A Yes, we do.

15 MR. RALSTON: Your Honor, that concludes my
16 direct examination.

17 THE COURT: Very well. Thank you,
18 Mr. Ralston.

19 Mr. Oliver.

20 CROSS-EXAMINATION

21 BY MR. OLIVER:

22 **Q Good morning, Dr. Mooney.**

23 A Good morning.

24 **Q Has Reclamation taken a position regarding**
25 **whether the CVPIA requires it to calculate**

575

1 **proportionality first before it concerns itself with**
2 **whether it meets the \$50 million funding mandate?**

3 A Yes, it has.

4 **Q What position has Reclamation taken in that**
5 **regard?**

6 A Reclamation has taken the position that
7 proportionality is subordinate to the direction to
8 collect 50 million.

9 **Q Is that a legal position?**

10 A I would have been informed by discussions
11 with our solicitors, but it would be a policy.

12 **Q How long has that been Reclamation's**
13 **position?**

14 A I believe since the inception of the CVPIA
15 and the development of the revised interim
16 guidelines.

17 **Q When was the CVPIA enacted, Dr. Mooney?**

18 A In 1992.

19 **Q Is that currently Reclamation's position?**

20 A That is currently Reclamation's position.

21 **Q And while you were program manager, did you**
22 **understand that to be Reclamation's position?**

23 A Yes, I did.

24 **Q I'm going to go right to your deposition**
25 **testimony which you've testified quite a bit about.**

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1 Specifically, page 67, lines 14 through 21. One
2 minute, Your Honor.

3 THE COURT: Dr. Mooney, is this image
4 coming up on your screen?

5 THE WITNESS: There's part of an image.
6 Now it has line 14.

7 THE COURT: My image is flashing on and
8 off.

9 THE WITNESS: I have an image.

10 MR. OLIVER: I'm sorry?

11 THE COURT: The image is flashing on and
12 off. We can't really use the screen for this.

13 MR. OLIVER: Understood.

14 BY MR. OLIVER:

15 Q So we'll just go with the paper copy.

16 So, Dr. Mooney, do you recall during your
17 deposition, Mr. Ralston asking you about limitations
18 in subsection (d) of 3407 of the CVPIA; do you
19 recall that?

20 A Yes, I do.

21 Q And do you recall him going through with
22 you the statute in terms of what provisions in the
23 statute correspond to limitations in subsection (d);
24 do you recall that?

25 A Yes, I do.

577

1 Q And you testified with Mr. Ralston, if you
2 look at page 67, lines 14 through 20, in regards to
3 the proportionality provision at issue in this case.
4 You testified that that was -- that provision is one
5 of the limitations in subsection (d); is that
6 correct?

7 A That's correct.

8 Q At the time of your deposition, what was
9 your understanding of what the term "limitation"
10 meant in the context of Mr. Ralston's question on
11 page 67, lines 14 through 20?

12 A I understood it to mean one of the
13 requirements for how we administered the mitigation
14 and restoration fund.

15 Q By testifying that the proportionality
16 provision was one of the limitations in subsection
17 (d), were you agreeing that -- or were you
18 testifying, I should say, that Reclamation must
19 calculate the proportionality provision first before
20 it concerns the \$50 million?

21 A No, I was not.

22 Q By testifying in your deposition that the
23 proportionality provision was one of the
24 limitations, were you testifying that
25 proportionality was subordinate -- excuse me -- that

578

1 the \$50 million funding mandate is subordinate to
2 the proportionality provision?

3 MR. RALSTON: Your Honor, I'd like to note
4 an objection to the use of leading questions during
5 this segment.

6 THE COURT: I sustain that objection. You
7 cannot be leading your own witness, even on cross.
8 BY MR. OLIVER:

9 Q I want to focus your attention, Dr. Mooney,
10 on page 72, lines 7 through 10.

11 A Okay.

12 Q Well, actually, I want you to focus on line
13 1 of 72. Do you see that?

14 A Yes, I do.

15 Q All right. And combining that question
16 regarding the \$50 million, Mr. Ralston asked you:

17 Returning to 3407(c)(2), it indicates that
18 the total collections are supposed to equal
19 \$50 million per year, right?

20 And your answer was?

21 A Yes, it does.

22 Q And then the following question,
23 Mr. Ralston again asked you:

24 That obligation, if you want to call it
25 that, is subject to the limitations in subsection

579

1 (d) of which the proportionality limitation is one
2 of them, right?

3 And you see the answer that you provided,
4 correct?

5 A Correct.

6 Q Explain the answer that you provided to
7 Mr. Ralston's question.

8 A My answer was that some of the provisions
9 in 3407(d) limit the total collection, and some of
10 the provisions in 3407(d) determine how we allocate
11 collections between water and power.

12 Q And how is that answer responsive to
13 Mr. Ralston's question?

14 A Proportionality was not a limitation on the
15 mitigation and restoration payments.

16 Q And when you say that, when you say
17 proportionality is not a limitation on the
18 mitigation and restoration payments, what do you
19 mean?

20 A I mean that the direction to collect 50
21 million would take priority over reducing the
22 mitigation and restoration fund.

23 Q Was that your position before this
24 deposition was taken?

25 A That was my position before.

580

1 **Q And is it your position after the**
2 **deposition was taken?**

3 A Yes, it is.

4 **Q And is it your position right now?**

5 A Yes, it is.

6 **Q And is that Reclamation's position**
7 **currently?**

8 A Yes, it is.

9 **Q Was that Reclamation's position in 1992**
10 **following enactment of the statute?**

11 A I don't know what Reclamation's position
12 was then, but that's the revised interim guidelines
13 in 1993.

14 **Q Following the revised interim guidelines,**
15 **was that Reclamation's position?**

16 A Yes, it was.

17 **Q You testified with Mr. Ralston that you**
18 **have knowledge concerning sections 3046, sections**
19 **3047 and 3408 of the CVPIA; do you recall that**
20 **testimony?**

21 A Yes, but not all of 3408.

22 **Q Okay. Do you consider yourself an expert**
23 **in statutory construction?**

24 A No, I am not.

25 **Q Are you an attorney?**

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1 A No, I am not.

2 **Q Do you have a law degree?**

3 A No, I do not.

4 **Q Have you ever taken classes on statutory**
5 **construction?**

6 A No, I have not.

7 **Q Have you ever taken any legal classes?**

8 A I took one class on water law in college.

9 **Q Did it involve construing statutes?**

10 A I don't remember that class, but I don't
11 believe so.

12 **Q But as program manager, did you have**
13 **responsibility for implementing section 3407 of the**
14 **CVPIA?**

15 A I had a role in portions of 3407.

16 **Q Which portions of 3047 did you have a role**
17 **in implementing?**

18 A I was primarily responsible for obligations
19 of the restoration fund, for obligating the
20 different dollar amounts.

21 **Q So concerning that implementation I want to**
22 **focus on two provisions of section 3047; that is,**
23 **the \$50 million funding requirement which you've**
24 **testified about and the proportionality provision,**
25 **okay?**

582

1 THE COURT: Is this 3047 or 3407?

2 MR. OLIVER: I apologize if I misspoke.
3 3407.

4 THE COURT: This subject is confusing
5 enough as it is.

6 MR. OLIVER: Understood. I will endeavor
7 to get that right.

8 BY MR. OLIVER:

9 **Q Section 3407 is the section involving the**
10 **restoration fund; is that correct?**

11 A That's correct.

12 **Q So I want to focus on your implementation**
13 **while you were program manager of section 3407 of**
14 **the restoration fund, specifically in regards to the**
15 **two provisions, okay?**

16 A Okay.

17 **Q The \$50 million funding requirement, okay,**
18 **and the proportionality provision.**

19 **As program manager did Reclamation**
20 **implement these two statutory provisions?**

21 A Yes, we did.

22 **Q How did Reclamation implement these two**
23 **statutory provisions?**

24 A So in seeking 50 million, we estimated what
25 revenues would be collected, and that estimate

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1 required us to maximize the mitigation and
2 restoration payment, and so that's how we arrived at
3 the need to collect 30 million on a three-year
4 rolling average basis and not being able to reduce
5 that amount.

6 For proportionality, we assessed the
7 non-discretionary charges where it was applicable.
8 When those types of water transactions occurred, we
9 charged the maximum amount allowable to water, \$6
10 per acre-foot for agriculture and the \$12 for
11 municipal and industrial water, and then we sought
12 to implement the different programs that would take
13 us to completion.

14 **Q The implementation of those two provisions**
15 **that you just described, has Reclamation implemented**
16 **the \$50 million funding requirement and the**
17 **proportionality provision in that same manner from**
18 **the time the revised interim guidelines were**
19 **published to the present day?**

20 A I'm not aware of a time that we have not.

21 Can I add to that?

22 **Q Yeah.**

23 A I think there have been occasions when we
24 have sold Section 215 water when we have not charged
25 the full amount of the mitigation and restoration

584

1 charges on that 215 water because we believed that
2 to assess those charges would have prevented the
3 sale and then we wouldn't have had any revenue.

4 **Q Remind the Court, please, what is Section**
5 **215 water?**

6 A Section 215 water is surplus water that is
7 not required for project purposes that we try to
8 sell to recover some revenue, very short-term,
9 temporary contracts.

10 **Q And so what's the basis of your testimony**
11 **that with regard to Section 215 water sometimes**
12 **Reclamation would charge less than the full amount,**
13 **what's the basis for Reclamation doing so?**

14 A In order to move that water, to sell that
15 water. So if we had -- we have the discretion to
16 reduce the cost, if reducing the cost is necessary
17 to sell that water, and so we would do so.

18 **Q Well, as the program manager at the time,**
19 **what's your understanding if Reclamation had charged**
20 **a higher price such as the full M&R for the Section**
21 **215 water, would a sale have resulted or not?**

22 A I would defer to the area managers. In
23 their discretion, there would not have been a sale
24 and we'd have gotten no revenue from that water. It
25 would likely have been spilled.

585

1 **Q In that event, if that were the case, would**
2 **there have been any charges that go into the**
3 **mitigation and restoration fun charges, if there**
4 **were no sales?**

5 A There would be no additional revenue.

6 **Q In your testimony with Mr. Ralston, you**
7 **indicated you had a conversation with Ms. Heather**
8 **Lindell.**

9 **Do you recall that?**

10 A Yes, I do.

11 **Q And since you and I know that her name now**
12 **is Heather Casillas, let's refer to her as Heather**
13 **Casillas, okay?**

14 A All right.

15 **Q You testified that the government's legal**
16 **position in this case regarding what is a limitation**
17 **in subsection (d) is stronger than what you had**
18 **previously thought.**

19 **Is that fair?**

20 A That's fair.

21 **Q Tell the Court why you believe it's**
22 **stronger.**

23 A I'm not an expert, but I believe it gives
24 more weight to the words -- it takes into
25 consideration more of the words in the statute.

586

1 **Q Does the difference in -- between the**
2 **government's position regarding the limitations,**
3 **what that means, what that entails, and the position**
4 **you articulated in your deposition on page 67, do**
5 **the difference between those two positions, does**
6 **that in any way change how Reclamation implements**
7 **section 3407?**

8 A That would not change our implementation.

9 **Q Would it change how Reclamation implements**
10 **the proportionality provision?**

11 A That would not change how we implement the
12 proportionality provision.

13 **Q Would it change whether Reclamation seeks**
14 **to maximize the \$50 million -- the \$50 million on a**
15 **three-year rolling average basis, would it change**
16 **that?**

17 A It would not change that.

18 **Q Would it change Reclamation's position with**
19 **respect to maximizing the \$30 million ceiling?**

20 A It would not change the \$30 million
21 ceiling.

22 **Q Would it change how Reclamation considers**
23 **whether or not non-discretionary revenues are**
24 **present in any given year to equal \$50 million?**

25 A It would not change our non-discretionary

587

1 charges.

2 **Q Would it change whether or not Reclamation**
3 **maximizes the \$6 and \$12 limits on water?**

4 A It would not change how we would assess
5 mitigation and restoration charges to water.

6 **Q I want you to turn to PTX -- Plaintiffs'**
7 **Exhibit 421. This is a document you were shown by**
8 **Mr. Ralston.**

9 A Will it be coming up on my screen?

10 MR. OLIVER: I hope so. If not, we'll work
11 it out. So we need to find PTX 421, page 44.

12 THE COURT: Mr. Oliver, where will I find
13 that?

14 MR. OLIVER: I apologize. This is from
15 plaintiffs' witness binder, 421. Do you still have
16 plaintiffs' witness binder?

17 THE COURT: I put it on the floor because I
18 thought we were finished with it.

19 MR. OLIVER: Nope, not so much.

20 MR. RALSTON: I have copies.

21 MR. OLIVER: I think the Court has one and
22 now Dr. Mooney has --

23 BY MR. OLIVER:

24 **Q Dr. Mooney, do you have Plaintiffs'**
25 **Exhibit 421, page 44? And I'll wait for the Court**

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1 to have it as well.

2 THE COURT: I have it.

3 MR. OLIVER: Okay.

4 THE WITNESS: My pages aren't labeled. Can
5 you -- okay.

6 BY MR. OLIVER:

7 **Q You recall testimony when questioned by**
8 **Mr. Ralston concerning this chart?**

9 A Yes, I do.

10 **Q Did you construct this chart?**

11 A Yes, I did.

12 **Q For what purpose?**

13 A I did this for assisting in understanding
14 the concerns for the sustainability of CVP power.

15 **Q Focus your attention on two in the legend,**
16 **there's some notes in the actual graph -- or,**
17 **actually, right below the graph, there's a notation**
18 **for market value at base loading.**

19 **Do you see that?**

20 A Yes, I do.

21 **Q And can you please tell the Court what that**
22 **refers to?**

23 A That refers to how Western computes a
24 comparative value using the monthly on-peak and
25 off-peak averages at the MP-15 note.

589

1 **Q Okay. So that's a solid line as depicted**
2 **in the graph?**

3 A Yes, it is.

4 **Q All right. Then there is a notation to the**
5 **right of that that says: "Market Value With Peaking**
6 **Prices." Do you see that?**

7 A Yes. The legend?

8 **Q Yes, it's still in the legend.**

9 A Yes.

10 **Q Can you please tell the Court what that**
11 **means?**

12 A That is an estimate of the value of project
13 power when we consider that we generate more energy
14 during times of the day when power is more valuable
15 than at times of the day when power is less
16 valuable.

17 **Q Between the market value at base loading**
18 **versus the market value with peaking prices, do you**
19 **have some understanding as to which one is the more**
20 **accurate account of what the market price is?**

21 A I would think that the peaking is probably
22 a slight overestimate and base loading is an
23 underestimate, so the reality would be somewhere
24 between the two.

25 **Q So I want to focus on the graph. Is there**

590

1 **a comparison that's been drawn in this graph?**

2 A There are several comparisons.

3 **Q Okay. Can you tell us what they are?**

4 A The first comparison is of the total cost
5 to the base resource customers, what fraction is for
6 operation, maintenance, and repayment versus what
7 portion is part of the CVPIA mitigation and
8 restoration charges.

9 **Q Okay. Let's focus on the peak loading**
10 **market price versus the CVP power. Is that a**
11 **comparison you can make?**

12 A The market value at base loading versus the
13 market value at peaking prices?

14 **Q The market -- well, the -- well, first of**
15 **all, the green and the red line, you see the bars**
16 **with the green and the red -- right before we move**
17 **on to the comparison, just tell the Court what that**
18 **means.**

19 A Mine is in black and white, but I believe
20 the green was the base resource revenue requirement,
21 and the red was power's mitigation and restoration
22 payment.

23 **Q And together, if you combine both the green**
24 **and the red, does that have some sort of**
25 **significance?**

591

1 A That is the total cost of CVP project
2 power.

3 **Q So is it possible from this graph to**
4 **compare the total cost of CVP power to the market**
5 **price for base loading?**

6 A Yes, it is.

7 **Q And is it also possible to compare the CVP**
8 **power total cost to the base loading market price?**

9 A To --

10 **Q To the market value with base loading?**
11 **Excuse me.**

12 A Yes, it is.

13 **Q So let's turn to those comparisons then.**
14 **Can you determine from this graph what**
15 **years the total cost of CVP is cheaper than the**
16 **market value at base loading?**

17 A Yes.

18 **Q Can you please identify to the court what**
19 **years those are?**

20 A We would know for 2009 for sure the cost of
21 CVP power was higher than the market. We would have
22 some question in 2012 as to whether it was higher or
23 lower. We would have a similar question in 2014,
24 and we would know for sure in 2015 and 2016 that CVP
25 power was more expensive.

592

1 **Q And in terms of the years in which CVP**
2 **power total cost was less than the market value at**
3 **base loading, which years would that be?**

4 A Those would be the years 2006, 2007, 2008,
5 2010, 2011, 2013.

6 **Q And the same question regarding the peak**
7 **value in terms of CVP power being less expensive**
8 **than peak power, market price at peak power?**

9 A That would be 2006, 2007, 2008, 2010, 2011,
10 2012, 2013, and 2014.

11 **Q All right. I want to switch topics,**
12 **Dr. Mooney, and turn to Plaintiffs' Exhibit 315 just**
13 **found in the witness binder. You were asked about**
14 **this in your questioning by Mr. Ralston.**

15 Now, you recall your testimony -- I'll wait
16 for the Court to get --

17 You recall your testimony regarding PTX 315
18 with respect to your statement that it would be not
19 responsible to bill \$45 million -- to bill power
20 \$45 million. Do you recall your testimony
21 concerning that?

22 A Yes, I do.

23 **Q And why was, you know, the prospect of**
24 **billing power \$45 million, why was that even a**
25 **prospect as of May 13th, 2014?**

593

1 A It was a prospect due to severe drought
2 that would limit collections from water deliveries
3 -- or limit water deliveries and therefore limit
4 collections from water.

5 **Q And why did you indicate it would not be**
6 **responsible to bill power for \$45 million?**

7 A Because it would cause the cost of power to
8 go over the market rate in 2014, and we had
9 flexibility through the three-year rolling average
10 to shift some of those costs into a subsequent year
11 where water payments may have made up a greater
12 portion of the difference, and it might have been
13 easier for power.

14 **Q Okay. And you testified about the**
15 **rescission of the mid-year adjustment in 2014. Do**
16 **you recall that?**

17 A Yes, I do.

18 **Q To your understanding is the mid-year**
19 **adjustment required by the CVPIA?**

20 A No, it is not.

21 **Q Is rescinding the mid-year adjustment**
22 **contrary to the terms of the CVPIA?**

23 A There's no mention in the CVPIA of mid-year
24 adjustment.

25 **Q Now, you testified rather extensively**

594

1 yesterday concerning a proposal, an idea that you
2 had with respect to adjusting the water estimation
3 methodology to smooth out power's payments. Do you
4 recall that?

5 A Yes, I do.

6 **Q Was that idea contrary to the Central**
7 **Valley Project Improvement Act to your**
8 **understanding?**

9 A There was nothing in the CVPIA that
10 specifies how to administer the water versus power
11 in terms of collections and mid-year adjustments and
12 estimates and deliveries.

13 **Q To your understanding is there anything in**
14 **the CVPIA regarding how Reclamation should estimate**
15 **its water deliveries?**

16 MR. RALSTON: Objection. Leading.

17 MR. OLIVER: It's a yes-or-no question.
18 There either is or is not.

19 THE COURT: I didn't hear the objection.

20 MR. RALSTON: I'm sorry, Your Honor.
21 Objection. Leading.

22 THE COURT: Overruled. I'll take his
23 answer.

24 THE WITNESS: There is nothing in the CVPIA
25 that specifies how we estimate water deliveries.

595

1 BY MR. OLIVER:

2 **Q Now, you testified that the purpose of**
3 **changing the way in which -- proposing changing the**
4 **way in which Reclamation would adjust its water**
5 **estimation, that that was for the purpose of**
6 **smoothing power's payment. Do you recall that**
7 **testimony?**

8 A Yes, I do.

9 **Q And why did you want -- why was that a**
10 **goal? That is to say smoothing water power's**
11 **payments, why was that a goal of yours?**

12 A One of power's concerns at the time was the
13 fluctuation in payments from year to year, and
14 another concern at the time was the impact of a
15 mid-year adjustment on water rates for a shortened
16 portion of the year.

17 **Q Did you have conversations with anyone at**
18 **Western regarding your idea to change the way in**
19 **which Reclamation was going to estimate its water**
20 **deliveries during this mid-year adjustment**
21 **rescission process?**

22 A I believe I had discussions with Regina.

23 **Q That would be Regina Reiger?**

24 A Yes.

25 **Q Did you have discussions with anyone else**

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1 at Western regarding your water estimation proposal?

2 A I don't recall anyone else.

3 Q Okay. But you -- what was Ms. Reiger's
4 reaction to your proposal?

5 A I don't think she --

6 MR. RALSTON: Your Honor, I'll enter a
7 hearsay objection on this.

8 THE COURT: I think it is hearsay. I'll
9 sustain the objection.

10 BY MR. OLIVER:

11 Q Was Western in agreement with your
12 proposal?

13 A Western -- we never implemented the
14 proposal, so we never asked Western to agree.

15 Q And why was the proposal never implemented?

16 A I don't know for sure.

17 Q Did you ever elevate the proposal to the
18 level of Brenda Bryant?

19 A Yes, I did.

20 Q Did you ever elevate -- was your proposal
21 ever elevated to the level of the regional director?

22 A I don't recall personally meeting with the
23 regional director. I don't know whether Brenda did
24 or did not.

25 Q Are you familiar with the term thinking

597

1 outside the box?

2 A Yes, I am.

3 Q What does it mean to you?

4 A It means to come up with as many solutions
5 that are possible and with as few constraints as
6 possible.

7 Q As program manager did you make attempts to
8 address power payments various concerns over the
9 years?

10 A I led a process that was supposed to see if
11 there were ways of addressing power constraints.

12 Q And in attempting to address power's
13 concerns over the years, did you have occasion to
14 think outside the box?

15 A I did my best to encourage thinking outside
16 the box.

17 Q Why is that?

18 A Because if we just continue with existing
19 practice, we will come to the same answer. I had to
20 give folks the space -- I had to give folks the
21 space to propose different ideas.

22 Q Does your idea of adjusting the water
23 estimation methodology to smooth out power's
24 payments, was that an example of thinking outside
25 the box?

598

1 A It was different than our current
2 practices. I would say it was outside of the box.

3 Q If you turn to Plaintiffs' Exhibit 322
4 which Mr. Ralston asked you about. In particular,
5 Plaintiffs' Exhibit 322, page 3.

6 A Okay.

7 Q Do you recall testifying about this chart?

8 A Yes, I do.

9 Q On a high level can you remind the Court
10 what this chart is?

11 A This chart was an attempt to stabilize the
12 three-year rolling average.

13 Q This is in connection with smoothing the
14 water payments that we just talked about?

15 A This would be smoothing the three-year
16 rolling average so it would be smoothing the total
17 collection ceiling. It would not affect -- it's
18 unlikely that it would affect water payments.

19 Q To your knowledge, did Reclamation ever
20 utilize this chart with respect to the rescission of
21 the mid-year adjustment?

22 MR. RALSTON: I will object on leading
23 basis.

24 MR. OLIVER: I mean, they either did or
25 didn't.

599

1 THE COURT: I'll let him answer.

2 THE WITNESS: We did not implement this
3 process.

4 BY MR. OLIVER:

5 Q To your knowledge, did Reclamation use this
6 chart in any way?

7 A Not to my knowledge.

8 Q I'm going to ask you about another document
9 that Mr. Ralston asked you about which is
10 Plaintiffs' Exhibit 353.

11 A I don't have that.

12 Thank you.

13 Q Before we go there, you can keep that in
14 front of you, but I'm going to ask about -- going
15 back to this whole stabilizing power's payments,
16 changing the water estimation methodology, and
17 Mr. Ralston asked you why not consider plaintiffs'
18 interpretation of the statute when it's
19 proportionality comes first, why not consider that
20 as an option to avoid the spikes in power's
21 payments. Do you recall that?

22 A I do recall that.

23 Q Would that have been a viable option to
24 accomplish the end of stabilizing power payments?

25 A We did not believe we had the discretion to

600

1 do so.

2 **Q Why did you not have the discretion to do**
3 **so?**

4 A We believed that appropriations' language
5 required us to collect the full amount, and we
6 believed the full amount was the 30 million on the
7 three-year rolling average basis and that
8 proportionality was subordinate.

9 **Q As program manager, if you were to adopt**
10 **plaintiffs' interpretation of the proportionality**
11 **provision, what impact would that have on your**
12 **ability to administer your program and meet the**
13 **statutory goals set forth in section 3407?**

14 A That would have reduced the restoration
15 fund dollars available to implement those programs.

16 **Q And what impact would that have had on your**
17 **program?**

18 A We would not be able to achieve many of the
19 purposes of those programs, and it would take longer
20 on some other cases.

21 **Q Now, turning your attention to what I've**
22 **previously brought your attention to which is**
23 **Plaintiffs' Exhibit 353, which Mr. Ralston asked you**
24 **about. In particular, page 2. Mr. Ralston asked**
25 **you about the statement on page 2 that says:**

601

1 "If equitability between water and power is
2 the primary issue, Reclamation could explore options
3 to charge for uses of CVP facilities that do not pay
4 the M&R charge."

5 **Do you recall testifying about that?**

6 A Yes, I do.

7 **Q In that statement were you indicating**
8 **equitability was the primary issue?**

9 A At that point, I no longer believed it was
10 an equitability question, but was willing to
11 continue pursuing it from an equitability
12 standpoint.

13 **Q Why did you not believe equitability was**
14 **the primary issue?**

15 A Because there are two ways to get closer to
16 proportionality. One way is to reduce the payments
17 by power. The other way is to increase the payments
18 by water. And when we had discussed increasing the
19 payments by water, several of the power customers
20 had responded that that was not what they were
21 looking for.

22 **Q What was your understanding of what the**
23 **power customers wanted?**

24 A The power customers wanted to pay less in
25 CVPIA mitigation-restoration fund charges.

602

1 **Q When you wrote in your memo that**
2 **Reclamation could explore options to charges for**
3 **uses of CVP facilities that do not pay the M&R**
4 **charge, did Reclamation actually explore options --**
5 **those options?**

6 A We did explore those options, several
7 options.

8 **Q Did you explore those options?**

9 A Yes, I did.

10 **Q Specifically mentioned here are Warren Act**
11 **transfers. Start with that. Did you explore**
12 **whether or not Warren Act transfers could be charged**
13 **mitigation-restoration charges?**

14 A Yes, I did.

15 **Q Did you reach a conclusion as to whether or**
16 **not they could be?**

17 A Yes, I did.

18 **Q What was that conclusion?**

19 A The conclusion was we could not assess
20 mitigation and restoration charges.

21 **Q Why?**

22 A Because Warren Act is an agreement for the
23 use of surplus capacity and facilities so it's
24 non-project water, so we did not believe mitigation
25 and restoration charges were applicable. And, also,

603

1 when we looked at the Warren Act, the Warren Act
2 requires revenues from those contracts to be
3 deposited in the Reclamation fund, not the
4 restoration fund. And so we saw no way, even if we
5 could find it to be applicable to that type of
6 water, to deposit that in the restoration fund.

7 **Q The Warren Act, is that a -- that's a**
8 **fairly old statute isn't it?**

9 A Yes, it is.

10 **Q Has it been amended over the years?**

11 A Yes, it has.

12 **Q So it's your understanding -- what's your**
13 **understanding today as to whether or not the Warren**
14 **Act currently provides for funds to go to the**
15 **Reclamation fund?**

16 A I believe it still requires funds to be
17 deposited in the Reclamation fund.

18 **Q Well, you also mentioned rescheduled water.**
19 **Is that one of the options that you looked at?**

20 A That was.

21 **Q Tell the Court what rescheduled water is,**
22 **please?**

23 A Rescheduled water -- this is, again, not my
24 expertise, but rescheduled water is water that is
25 made available in one contract year and contractors'

604

1 request for it to be stored into a subsequent
2 contract year.

3 **Q Does Reclamation charge mitigation and
4 restoration charges with respect to rescheduled
5 water?**

6 A We assess those charges when rescheduled
7 water is delivered.

8 **Q What about prior to delivery?**

9 A We do not.

10 **Q So what aspect of rescheduled water were
11 you examining -- were you exploring?**

12 A We were exploring whether we could assess
13 an additional fee for water that was rescheduled.

14 **Q And what was your determination?**

15 A Our determination was that we could not
16 assess that additional fee without exceeding the \$6
17 and \$12 per acre-foot limitation on water sold and
18 delivered.

19 **Q You also mentioned settlement contract
20 deliveries --**

21 A Correct.

22 **Q -- as an option. Is that an option you
23 explored with respect to charging mitigation and
24 restoration charges?**

25 A We did explore that.

605

1 **Q What are settlement contract deliveries?**

2 A Settlement contracts are a settlement of
3 claimed prior rights that predate the CVP. And so
4 we entered into settlement contracts to avoid a
5 lengthy adjudication process that would have
6 assigned specific water rights.

7 **Q What was your determination as to whether
8 or not mitigation and restoration charges could be
9 charged on settlement contract deliveries?**

10 A We determined that we could not assess
11 those charges.

12 **Q Why?**

13 A Because the settlement contracts were not
14 water developed by the CVP, so that's not our water
15 to assess charges upon.

16 **Q Whose water is it?**

17 A It is water that's diverted under other
18 rights other than the CVP.

19 **Q Holding contract deliveries, did you
20 explore that as well?**

21 A We did explore holding contract deliveries.

22 **Q And what's a holding contract delivery?**

23 A The holding contracts that I know of are
24 for water users below Friant Dam, between Friant
25 Dam and Gravelly Ford.

606

1 **Q What determination did you reach with
2 respect to whether or not mitigation and restoration
3 charges apply to holding contract deliveries?**

4 A We determined that we could not assess
5 those charges.

6 **Q Why?**

7 A There were several reasons. The first was
8 that administratively we meet those holding
9 contracts through a fixed flow rate at Gravelly Ford
10 so we don't necessarily have specific quantities.
11 And second of all, similar to the settlement
12 contracts, it's not a right that was developed for
13 the CVP so it's not our water.

14 **Q And, finally, you mention exchange contract
15 deliveries. Did you explore whether or not
16 mitigation and restoration charges apply to exchange
17 contract deliveries?**

18 A Yes, we did.

19 **Q What determination did you reach?**

20 A We similarly determined that it was not
21 water developed under Reclamation's water rights.

22 **Q Is that similar to the rationale you
23 previously testified about regarding settlement
24 contract deliveries?**

25 A Yes, it is.

607

1 **Q Do you know when those determinations were
2 made in terms of the timeframe?**

3 A Well, these determinations were made within
4 the interim guidelines in 1993. This was a
5 revisiting to see if there were any other ways of
6 looking at it or other options, so I guess it was a
7 redetermination. I don't know the specific dates.

8 **Q I apologize. I was referring to -- you
9 know, if you don't know, you don't know -- when the
10 determinations, when you followed up and explored
11 these options, when you would have made those
12 determinations, but your testimony is you don't know
13 what year that occurred?**

14 A I don't know if it was 2014 or 2015.

15 **Q Understood.**

16 **If you may turn to another document that
17 Mr. Ralston asked you about.**

18 A I guess I would say that we never actually
19 finalized this process. I don't know that we ever
20 reached a final determination for the second look.

21 **Q Turn to PTX 352 which is again another
22 document that Mr. Ralston asked you about. Focusing
23 on paragraph three -- and, again, you recall
24 testifying about the statement in which you wrote to
25 say: "Take power at face value that the issue**

608

1 really is equitability and close loop holes in water
2 deals that use CVP facilities and don't share in the
3 CVP related mitigation for those facilities," and
4 you gave some examples. What do you mean by "loop
5 holes" there?

6 A There are certain water transactions that
7 are subject to the CVPIA charges, and there are
8 certain transactions that are not. So I was
9 referring to water transactions that are not subject
10 to CVPIA charges.

11 Q Why did you term it "loop holes"?

12 A Because they are making use of CVP
13 facilities but not paying in the mitigation of those
14 facilities.

15 Q Did you think they should be paying for the
16 use of those facilities via the mitigation and
17 restoration charge?

18 A I was willing to explore that option. I
19 didn't have a conclusion.

20 Q Did you ever reach the conclusion whether
21 or not those various water charges should be charged
22 -- water -- the ones that you mentioned, Warren Act
23 and rescheduled -- you just testified -- let me
24 rephrase.

25 Turn to PTX 401. This is a memorandum, a

609

1 memorandum, confidential briefing, actually. Do you
2 recall testifying about this?

3 A Yes, I do.

4 Q Okay. And you specifically testified under
5 the "Recommendation" heading on page 3 that:
6 "Reclamation should assess restoration charges on
7 Warren Act transfers and rescheduled water."

8 Do you see that?

9 A Yes, I do.

10 Q Is that a recommendation you were making in
11 this briefing?

12 A Yes, it was.

13 Q And did --

14 A With the same caveat to what a
15 recommendation is in the context of these briefing
16 formats.

17 Q Which is what?

18 A That we are asked to put forward something
19 for a decisionmaker to decide on.

20 Q And the decisionmaker in this case would be
21 whom?

22 A This probably would have been David
23 Murillo.

24 Q And in bullet point 3 at the very bottom,
25 is: "Decision 2 - Identifying whether to pursue

610

1 charges on other water transactions."

2 Do you see that?

3 A Yes, I do.

4 Q Would that include the Warren Act transfers
5 and rescheduled water?

6 A Yes, it would've.

7 Q And has a determination been made with
8 respect to whether or not to charge Warren Act and
9 rescheduled M&R charges?

10 A I don't know that we ever finalized a
11 process.

12 Q Where does it stand right now?

13 A We suspended the finance plan indefinitely,
14 and the confidential settlement discussions broke
15 down.

16 Q Does Reclamation have a position as to
17 whether or not Warren Act transfers and rescheduled
18 water are subject to the mitigation and restoration
19 charge?

20 A Reclamation's position is that they are not
21 subject. Rescheduled water is subject when it is
22 delivered.

23 Q But not the use of the facility?

24 A The additional use of storage is not
25 subject to mitigation and restoration charge.

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1 THE COURT: Mr. Oliver, would this be a
2 good time for a lunch recess?

3 MR. OLIVER: Yes, Your Honor.

4 THE COURT: All right. Let's adjourn for
5 lunch. We shall reconvene at 1:30.

6 (Lunch recess taken from 12:25 to 1:32)

7 THE CLERK: All rise. The court is again
8 in session.

9 THE COURT: Thank you. You may be seated.
10 Mr. Oliver, I was thinking over lunch that

11 you are a very soft-spoken person, which is an
12 admirable trait in many walks of life, but perhaps
13 not this one. Could you keep your voice up a little
14 bit so that we can hear a little easier.

15 MR. OLIVER: Yes, Your Honor, will do. My
16 apologies.

17 THE COURT: All right. Thank you.

18 BY MR. OLIVER:

19 Q Good afternoon, Dr. Mooney. I'd like to
20 resume by turning to another exhibit that
21 Mr. Ralston asked you about which is Plaintiffs'
22 Exhibit 297. And I want to in particular focus your
23 attention on paragraph three in Plaintiffs'
24 Exhibit 297.

25 THE COURT: Where is this document?

612

1 MR. OLIVER: This is in plaintiffs' witness
2 binder for Dr. Mooney. Plaintiffs' Exhibit 297.

3 THE COURT: Okay. I have it now. It's
4 blank so I don't have this document.

5 I've got it now.

6 BY MR. OLIVER:

7 **Q Do you recall testifying concerning the**
8 **first sentence in paragraph three indicating that:**
9 **"We believe we already have the ability to achieve**
10 **proportionality with changes to our annual**
11 **appropriation language..."**

12 **Do you see that sentence?**

13 A Yes, I do.

14 **Q And do you recall testifying about it?**

15 A I recall testifying about it.

16 **Q To your understanding, does Bureau of**
17 **Reclamation have an obligation to seek**
18 **appropriations that have funding sufficient to**
19 **achieve exact proportionality?**

20 A We do not believe we have an obligation to
21 achieve exact proportionality.

22 **Q Why not?**

23 A Because we believe that we're limited in
24 what we can collect from water, and we have an
25 obligation to try and achieve 50 million in order to

613

1 accomplish the purposes of the CVPIA.

2 **Q So what did you mean in paragraph three**
3 **when you said: "We believe we already have the**
4 **ability to achieve proportionality with changes to**
5 **our annual appropriations language," what did you**
6 **mean?**

7 A I believe that, if Congress changed our
8 appropriations language, that could limit our
9 collections.

10 **Q Turn to Exhibit 309, also Plaintiffs' 309,**
11 **which you also testified about earlier this morning.**

12 A Okay.

13 **Q And do you recall testimony concerning the**
14 **second paragraph when you said: "We should talk**
15 **through my proposal to apply proportionality to the**
16 **\$50 million ceiling, not to actual collection**
17 **receipts from water"? Do you recall testifying**
18 **about that?**

19 A I do recall that.

20 **Q And I believe you testified that you**
21 **believe that assertion was wrong, was that your**
22 **testimony that you stated earlier?**

23 A I believe that the Act does not support
24 that interpretation.

25 **Q Can you explain to the Court why that is**

614

1 **your belief?**

2 A I believe the Act requires us to seek the
3 appropriations that we need in order to accomplish
4 the Fish and Wildlife provisions of the Act, and I
5 don't think that there is a -- I believe the Act
6 is -- states the language on taking into account all
7 funds collected under the title would prevent us
8 from indexing it to the 50 million.

9 **Q And explain why that is the case, please.**

10 A Under what I was proposing here, taking all
11 funds into account would have to be taking into
12 account funds that were not collected, and that does
13 not feel like a very straightforward interpretation.

14 MR. OLIVER: Your Honor, that concludes the
15 cross-examination portion, and so now I will
16 commence with the direct testimony.

17 THE COURT: All right. Very well.

18 DIRECT EXAMINATION

19 BY MR. OLIVER:

20 **Q You were the program manager for the CVPIA,**
21 **correct?**

22 A That's correct.

23 **Q Between what years were you the program**
24 **manager for the CVPIA?**

25 A I believe, roughly, early 2013 to mid-2016.

615

1 **Q Can you describe your duties and**
2 **responsibilities as program manager?**

3 A My responsibilities were to administer the
4 restoration fund.

5 **Q Any other duties?**

6 A The -- when I had an accretion of duties to
7 my supervisory role at the program management
8 branch, I also supervised several program and
9 project managers for the CVPIA as well as for the
10 water conservation branch and the -- some of the
11 environmental compliance specialists that assisted
12 with water transfers.

13 **Q And as the chief of the program management**
14 **branch, who did you report to?**

15 A I reported to Rick Woodley.

16 **Q How many people reported to you?**

17 A I believe about 15.

18 **Q In your capacity as chief of the program**
19 **management branch, did you have any responsibilities**
20 **concerning budgets?**

21 A I was responsible for the obligation
22 component for the restoration fund and some elements
23 of the Bay-Delta fund when funding was provided to
24 me, and also some elements of water-related
25 resources.

616

1 **Q In your capacity as the chief of the**
2 **program management branch, did you have any occasion**
3 **to work with Fish and Wildlife service?**

4 A I worked with Fish and Wildlife service on
5 a regular basis.

6 **Q In what capacity were you working with the**
7 **Fish and Wildlife service?**

8 A A delegation for implementing the CVPIA is
9 shared between the Fish and Wildlife service and the
10 Bureau of Reclamation.

11 **Q Did you have any responsibility with**
12 **respect to the implementation of the statutory**
13 **directives set forth in section 3407 CVPIA as the**
14 **program manager?**

15 A I had a responsibility for doing the
16 planning, obligations, and reporting on activities
17 for the restoration fund.

18 **Q And how did you report on the activities**
19 **regarding the restoration fund?**

20 A You prepared annual accomplishment reports
21 for submittal to Congress.

22 **Q Any connection with your duties as program**
23 **manager and later chief of the program management**
24 **branch, did you have occasion to become**
25 **knowledgeable about various sections of the CVPIA?**

617

1 A I became knowledgeable about the 3406,
2 3407, and certain of the 3408 sections, and was
3 occasionally asked about others.

4 **Q Those are relevant to your duties as**
5 **program manager?**

6 A The relevant duties of the program manager
7 would have been the 3406, 3407 and certain of the
8 3408.

9 **Q Which aspects of 3408 were relevant to your**
10 **duties as program manager?**

11 A Primarily, there was a land retirement
12 provision, and there was also -- I believe 3408 is
13 where the annual reporting requirement appears as
14 well.

15 **Q So let's turn to the statute which is the**
16 **CVPIA section 3406, which is Joint Exhibit 3. I**
17 **want to focus your attention on 3406(b)(1), and in**
18 **particular the sentence at the end of the first**
19 **paragraph of 3406(b)(1), paraphrasing, says: The**
20 **secretary is authorized and directed to. Do you see**
21 **that language, right before (b)(1)?**

22 A I see that sentence.

23 **Q Okay. And then there is a listing of 23**
24 **activities; is that correct?**

25 A That's correct.

618

1 **Q Did you have any responsibility with**
2 **respect to the implementation of the activities set**
3 **forth in 3406(b)(1) through (23)?**

4 A I was responsible for the restoration fund
5 obligations towards these activities and
6 coordinating that with other sources of
7 appropriations. Then I directly supervised program
8 managers for the in-stream flow program and the
9 anadromous fish stream program.

10 **Q Okay.**

11 A And then we consider the refuge water
12 supply program to be linked to the in-stream flow
13 program. Those would appear as a separate section
14 or subsection.

15 **Q You mentioned a few minutes ago that you**
16 **provide or were responsible for the annual**
17 **accomplishment reports, correct?**

18 A Correct.

19 **Q The activities that you just mentioned in**
20 **3406(b)(1) through (23), would they be referenced in**
21 **annual accomplishment reports or were they actually**
22 **completed?**

23 A Those activities were described in the
24 accomplishment report including progress as well as
25 completion, where they were completed.

619

1 **Q Now, you mentioned that you were**
2 **responsible for obligations for these activities**
3 **with respect the restoration fund, and you also**
4 **referenced other sources of appropriations, correct?**

5 A Correct.

6 **Q Can you identify for the court what those**
7 **other sources of appropriations would be aside from**
8 **the restoration fund?**

9 A There's the water-related resources fund.
10 There's the CALFed Bay-Delta Fund, and the one-time
11 American Recovery and Reinvestment Act.

12 **Q As the program manager, did you have**
13 **occasion to obligate funds with respect to CVPIA**
14 **activities with respect to those resources?**

15 A I was not involved in the obligation of
16 American Recovery and Reinvestment Act fund.

17 **Q But CALFed and water-related**
18 **appropriations, you were involved in obligations**
19 **with respect to those two funds?**

20 A I would say I was primarily responsible for
21 the CVPIA, and then there are other individuals who
22 manage the water-related and CALFed, Bay-Delta, but
23 we coordinate so those funds can be used on
24 activities where that's determined to be the proper
25 use.

620

1 **Q And how would you determine whether or not**
 2 **funds should be allocated, for instance, the**
 3 **restoration fund versus the water related or CALFed,**
 4 **how was that determination made?**

5 A It would depend on the various priorities
 6 for the year, and it would also depend on the status
 7 of implementing the different projects, and so there
 8 would be an interactive discussion about where the
 9 best -- where the highest need was and where the
 10 best uses of these funds would go.

11 **Q Let's turn to section 3407 involving the**
 12 **restoration fund. Take the very first sentence in**
 13 **3407(a). In particular, focus your attention on the**
 14 **various sources of revenues that are referenced in**
 15 **that first section.**

16 **Do you see the various sections that I**
 17 **reference there?**

18 A Yes, I do.

19 **Q Are you familiar with what revenue sources**
 20 **are generated from each section with respect to the**
 21 **restoration fund?**

22 A To a certain extent, yes.

23 **Q Okay. But, I mean, you can identify the**
 24 **revenue source -- or can you identify the revenue**
 25 **source or sources from each subsection as referenced**

621

1 **in the that first sentence?**

2 A I believe I can.

3 **Q So let's look at 3404(c)(3), what revenue**
 4 **source or sources correlate to that section?**

5 A I believe those are the pre-renewal
 6 charges.

7 **Q You earlier testified about the term**
 8 **non-discretionary revenues; do you recall that?**

9 A Yes, I do.

10 **Q Can you remind the Court what is a**
 11 **non-discretionary revenue?**

12 A The non-discretionary revenues are all
 13 sources except for the mitigation and restoration
 14 charges.

15 **Q Okay. So what is the pre-renewal, what**
 16 **category does that fit into?**

17 A That is a non-discretionary charge.

18 **Q And are there any other sources of revenue**
 19 **in 3404(c)(3) other than pre-renewal?**

20 A I'm not sure if the tiered pricing is in
 21 that section or the next section.

22 **Q Okay. Well, 3405(f), what sources of**
 23 **revenue are located there?**

24 A Not entirely sure on the tiered pricing,
 25 but I believe that tiered pricing and water transfer

622

1 charges are 3405(f).

2 **Q You can flip back and just take a second to**
 3 **look in the statute so you can determine whether or**
 4 **not -- where tiered prices are located.**

5 A 3405(f) has the tiered pricing.

6 **Q And water transfers are in what section?**

7 A 3405(a).

8 **Q Okay. And tiered pricing and water**
 9 **transfers, how would you characterize those two**
 10 **charges with respect to the dichotomy we just talked**
 11 **about, non-discretionary versus M&R?**

12 A They are non-discretionary.

13 **Q So we're up to three non-discretionaries.**

14 **3406(c)(1), what revenue sources correlate**
 15 **to that provision?**

16 A That would be the Friant surcharge.

17 **Q And 3407(d) -- and the Friant surcharge is**
 18 **-- again, what type of charge is that?**

19 A A non-discretionary charge.

20 **Q And, finally, 3407(d), what revenue sources**
 21 **-- source or sources are correlated to that**
 22 **provision?**

23 A Those are the mitigation and restoration
 24 charges and the M&I surcharge.

25 **Q Okay. And M&I surcharge is what type of**

623

1 **charge?**

2 A The M&I surcharge is a non-discretionary
 3 charge.

4 **Q So by my count I have 1, 2, 3, 4, 5. How**
 5 **many non-discretionary charges are there? I'm**
 6 **sorry, I asked it in backwards form. I'll clean it**
 7 **up. How many non-discretionary charges are there?**

8 A Pre-renewal, tiered, transfer, Friant, M&I.
 9 Five.

10 **Q So there are five non-discretionary charges**
 11 **and then there's the M&R charge?**

12 A Correct.

13 **Q And are those the six charges -- they**
 14 **comprise the restoration fund?**

15 A We are also allowed to accept donations.

16 **Q And donations. Fair enough.**

17 **All right. Let's move to 3407(b) entitled**
 18 **"Authorization of Appropriations." Are you familiar**
 19 **with this provision?**

20 A Yes, I am.

21 **Q Focusing on the first sentence: "Such sums**
 22 **as are necessary up to \$50 million per year." Do**
 23 **you see that? "...are authorized to be appropriated**
 24 **to the secretary to be derived from the restoration**
 25 **fund..."**

624

1 What is your understanding of what this
2 provision entails, sir?

3 A My understanding is that this authorizes us
4 to seek appropriations that are necessary to achieve
5 the different CVPIA provisions.

6 Q Do you have an understanding of whether or
7 not you can take appropriations that exceed
8 \$50 million a year in 1992 dollars?

9 A Not from the restoration fund.

10 Q What's your understanding of the purpose of
11 the appropriations that are referenced in 3407(b)?

12 A The purpose is generally for the Fish and
13 Wildlife programs.

14 Q Let's move down to 3407(c) entitled
15 "Mitigation and Restoration Payments By Water and
16 Power Beneficiaries." You're also familiar with
17 this provision, correct, sir?

18 A Yes, I am.

19 Q Focusing on (c)(1), what is your
20 understanding of what this provision entails as a
21 program manager -- from the standpoint of the
22 program manager?

23 A My understanding is that this requires us
24 to seek appropriations for the mitigation and
25 restoration charges.

625

1 Q And what particular language tells you
2 that?

3 A To the extent required, an appropriation
4 act.

5 Q So as program manager, were you familiar
6 with the appropriations acts every year that concern
7 the restoration fund?

8 A Generally.

9 Q Were you familiar with the language
10 contained in those appropriations acts with respect
11 to the mitigation and restoration charge and the
12 restoration fund more generally?

13 A Yes.

14 Q Let's move down to (c)(2), 3407(c)(2). Do
15 you see the sentence in 3407(c)(2), the section
16 prior to the italicized "provided." Did you see
17 that section?

18 A Yes, I do.

19 Q What is your understanding of what that
20 section means?

21 A That tells me that we need to estimate what
22 we may be able to collect.

23 Q Is there any baseline when you say that you
24 estimate -- well, let me strike that.

25 There's a reference to an amount that can

626

1 reasonably expect to equal the amount appropriated
2 per year. Do you see that section, sir -- that
3 phrase?

4 A Yes, I do.

5 Q What, if any, meaning to you attribute to
6 that phrase in the context of 3407(c)(2)?

7 A My understanding is that's direction on how
8 we estimate the mitigation and restoration payments.

9 Q Let's continue. After the word "provided,"
10 and, in particular, it references: That, if the
11 total amount appropriated under subsection (b) of
12 this section for the fiscal years following
13 enactment of this title does not equal \$50 million
14 per year..." Let's just freeze there for a second.
15 Has there been any year in which -- in 1992 dollars.
16 Has there been any year in which the appropriations
17 have equaled \$50 million per year in 1992 dollars?

18 A Not for the restoration fund.

19 Q For the restoration fund, yeah, okay.

20 I want to focus your attention on the
21 section beginning with "The secretary shall impose."
22 Do you see that? "The secretary shall impose such
23 charges in fiscal year 1998 and each fiscal year
24 thereafter." Do you see that section?

25 A Yes, I do.

627

1 Q What is your understanding of what -- if
2 you can take a second to read the rest of that
3 clause. What is your understanding of what that
4 provision means?

5 A My understanding is that provision sets the
6 requirement to try and collect 50 million per year.

7 Q And you notice the phrase "subject to the
8 limitations in subsection (d)" that's contained
9 therein. Do you see that?

10 A Yes, I do.

11 Q What is your understanding as to where you
12 would find the limitations in subsection (d)? Where
13 are they located?

14 A In section (d)(1) and (d)(2)(a).

15 Q Let's move to 3407(d)(1). Are you familiar
16 with this provision?

17 A Yes, I am.

18 Q What does it mean? What is your
19 understanding of what it means?

20 A I understand that we would reduce the
21 mitigation and restoration charges if we thought
22 that non-discretionary charges would be greater than
23 20 million so as not to exceed 50 million total,
24 1992 price levels.

25 Q To your understanding, under what

628

1 circumstances is (d)(1) applicable?

2 A (D)(1) is applicable when non-discretionary
3 charges exceed 20 million.

4 Q Okay. And is (d)(1) applicable when you
5 look at the entire restoration fund when -- let's
6 give you a hypothetical.

7 If the restoration fund in any given year
8 Reclamation estimates that there will be \$40 million
9 from both non-discretionary -- or excuse me.

10 Let's imagine a hypothetical in which the
11 non-discretionaries are \$10 million.

12 A Okay.

13 Q That's the total. Would (d)(1) be
14 applicable then?

15 A It would not modify the mitigation and
16 restoration charges.

17 Q Well, yes, but just so the Court has a
18 benefit of an answer, would you apply (d)(1) in that
19 instance, if the non-discretionary payments you
20 estimate would total about \$10 million?

21 A We would look at (d)(1) and determine that
22 it did not change the mitigation and restoration
23 charges.

24 Q Let me focus your attention on the second
25 sentence of (d)(1). It says: "The secretary shall

630

1 numbers, that's fine -- as to how that would
2 actually work and be applied.

3 A If we had non-discretionary payments of
4 \$40 million, we would reduce the mitigation and
5 restoration charges to 10 million so that in
6 aggregate it would be the 50 million limit.

7 Q Why are you reducing the M&R payments in
8 your example to 10 million? How do you get to 10?

9 A I would take the \$50 million, I would
10 subtract the 40 million in non-discretionary
11 payments, and that leaves 10 million in mitigation
12 and restoration charges, in order to achieve the 50
13 million.

14 Q Why are you using 50 million in your
15 example? Is there someplace in the statute in
16 3407(c) or (d)? Where are you getting \$50 million?
17 Can you point the Court to there?

18 A I'm getting that from 3407(c)(2).

19 Q All right. So let's move on to 3407(d)(2),
20 okay? The first sentence says: "The secretary
21 shall assess and collect the following mitigation
22 and restoration payments, to recover to the
23 restoration fund, subject to the requirements of
24 paragraph (1) of this subsection."

25 And we just looked at paragraph (1),

629

1 decrease all such payments on a proportionate basis
2 from amounts contained in the estimate so the
3 aggregate amount is collected pursuant to the
4 requirements of paragraph (c)(2) of this section."

5 Do you see that?

6 A Yes, I do.

7 Q What's your understanding of what that
8 aggregate amount that's referred to in (d)(1), what
9 is that aggregate amount from paragraph (c)(2), what
10 is that?

11 A That would be the total of the
12 non-discretionary charges and the mitigation and
13 restoration charges.

14 Q And where do you find that? This
15 references "in an aggregate amount that's collected
16 pursuant to the requirements of paragraph (c)(2),"
17 correct?

18 A Correct.

19 Q So explain for the Court how this
20 decreasing -- explain how a scenario in which
21 Reclamation would decrease payments on a
22 proportionate basis from amounts collected in the
23 estimate so that an amount is collected pursuant to
24 the requirements of paragraph (c)(2). Explain --
25 maybe provide an example -- if you want to use

631

1 correct?

2 A Correct.

3 Q So just taking that sentence I just read in
4 (d)(2), what is your understanding of that
5 provision?

6 A I understand that provision to be setting
7 the amount of money we should collect in mitigation
8 and restoration payments, and then I look to (d)(1)
9 that tells me I should reduce that amount so as not
10 to exceed 50 million in aggregate. And then I see
11 (d)(1) as referring to (c)(2), which tells me to
12 assess -- to seek 50 million.

13 Q Let's move on to (d)(2)(a), okay?

14 A Okay.

15 Q It says: "The secretary shall require
16 Central Valley Project water and power contractors
17 to make such additional annual payments as are
18 necessary to yield, together with all other
19 receipts, to the amount required under paragraph
20 (c)(2) of this section."

21 What's your understanding as to what the
22 amount required under paragraph (c)(2) of this
23 section is?

24 A The amount required under paragraph (c)(2)
25 is 50 million.

632

1 Q So what's your understanding of this
2 provision in 3407(d)(2)(a), that is, the provision
3 before the word "provided," the one that I just
4 read -- do you see that?

5 A Yes, I do.

6 Q What is your understanding of what that
7 provision means?

8 A I see that provision identifying who we
9 collect mitigation and restoration charges from and
10 direction to seek the 50 million under (c)(2).

11 Q It's followed by the word "provided." Do
12 you see that?

13 A Yes, I do.

14 Q What's your understanding of -- well, let's
15 keep going. It says "provided," and then there's a
16 clause concerning the 30 million.

17 Do you see that?

18 A Yes, I do.

19 Q What's your understanding of what
20 "provided" means in that context, following what you
21 just described as a \$50 million requirement. What
22 does the word "provided" mean?

23 A I see "provided" as direction on how we are
24 to collect the mitigation and restoration charges.

25 Q It says -- what is your understanding of

634

1 Q Does the \$6 and \$12 limit, does it or does
2 it not trump the \$50 million funding requirement?

3 A The 6 and \$12 would be a hard limit. We
4 could not go above those in order to achieve 50
5 million.

6 Q Same question regarding the \$30 million M&R
7 ceiling.

8 A We could not go above 30 million in order
9 to achieve 50 million.

10 Q Let's go to the next clause following the
11 word "provided further." This references an ability
12 of the water users to pay. What does that section
13 mean?

14 A I'm not an expert on ability-to-pay relief,
15 but I understand that for certain water users who
16 can't afford to pay their bills, there's some relief
17 granted to where part of those costs go to power.
18 In this case, I would see this as they do not have
19 to pay the restoration fund, mitigation and
20 restoration charges.

21 Q All right. Let's keep going. The last one
22 says: "And provided further concerning the
23 completion of certain activities."

24 What does that section mean?

25 A That section means that when we've

633

1 what that first clause is following the word
2 "provided" concerning the \$30 million; what does
3 that mean?

4 A To me that means in seeking the 50 million
5 we cannot exceed 30 million. All of these are on a
6 three-year rolling average.

7 Q But there's a requirement -- you said
8 there's a requirement to achieve \$50 million, so how
9 does the \$30 million provision relate to the
10 \$50 million requirement?

11 A I see 30 million as the limitation on the
12 degree to which mitigation and restoration charges
13 can be used to reach that 50 million.

14 Q Let's go to the next clause following the
15 word -- following the phrase "provided further."

16 Do you see that?

17 A Yes, I do.

18 Q And there's a reference to \$6 per acre-foot
19 and \$12 per acre-foot for water sold and delivered.
20 What's your understanding of what this provision
21 means?

22 A For that provision we cannot exceed a
23 certain per acre-foot price for irrigation water for
24 agriculture of \$6, and we cannot exceed a price of
25 \$12 per acre-foot for M&I water.

635

1 completed the Fish and Wildlife provision we would
2 reduce the total amount of mitigation and
3 restoration charges that are allowable.

4 Q Now, let's turn to the concept of the
5 subject to the limitations in subsection (d) which
6 you previously testified about.

7 Do you have some understanding of what
8 plaintiffs' legal position is in this case with
9 respect to whether the proportionality provision is
10 subject to the limitations in subsection (d)?

11 A I believe I understand the intended
12 outcome.

13 Q But you don't know what their argument is?

14 A I understand that their argument is that
15 proportionality takes priority over anything else.

16 Q Right, I understand. But do you understand
17 whether or not -- plaintiffs' position as to whether
18 or not -- the proportionality provision -- you're
19 familiar with the proportionality provision,
20 correct?

21 A Yes I am.

22 Q Do you know whether plaintiffs contend
23 whether or not that provision is one of the
24 limitations in subsection (d)?

25 A I am familiar with that.

636

1 **Q What's their position?**

2 A Their position is that proportionality is
3 one of the limitations in subsection (d) on the
4 direction to seek 50 million.

5 **Q Do you agree?**

6 A I do not agree with their position.

7 **Q Why? Why do you not agree?**

8 A I believe it is not one of the limitations.
9 It's caveated "to the greatest degree practicable,"
10 and it does not have the "provided further" or
11 "provided by."

12 **Q Does Reclamation implement the
13 proportionality provision?**

14 A We do seek to get proportional to the
15 greatest degree we can.

16 **Q Name all the ways in which Reclamation
17 implements the proportionality provision.**

18 A We assess the non-discretionary charges
19 when those water transactions occur. We maximize
20 the mitigation and restoration charges on water.
21 That would be the \$6 and \$12 per acre-foot
22 limitation. And we continue to diligently implement
23 the programs to achieve completion.

24 **Q What impact does maximizing the 6 and the
25 12 have with respect to proportionality?**

637

1 A That both increases the amount that water
2 pays and reduces the amount that power would need to
3 pay to get to the 30 million limitation on
4 mitigation and restoration charges.

5 **Q How long has that been the policy of
6 Reclamation to maximize the water charges?**

7 A I believe since the 1993 interim
8 guidelines.

9 **Q To when?**

10 A It is still the policy.

11 MR. OLIVER: I'd like to show the witness a
12 demonstrative exhibit that's labeled DDX 1.

13 THE COURT: Yeah. May I ask a question?
14 This seems like an appropriate break point.

15 I've been trying to understand the
16 proportionality test, and this relates to what you
17 were just explaining. It sounds to me that you're
18 trying to achieve or receive 50 million per year
19 total, right?

20 THE WITNESS: Correct.

21 THE COURT: And you have some fairly
22 detailed and firm calculations for determining the
23 water portion of the 50 million, and I think you
24 said they're non-discretionary?

25 THE WITNESS: Correct.

638

1 THE COURT: And so to get the -- and I'm
2 looking at this at rather a high level, I
3 understand. But to get the amount of the power
4 allocation, you just take the 50 million less the
5 water, and the balance is power, right?

6 A We take the 50 million. We generally
7 recognize the non-discretionary charges don't
8 materialize. So then we seek to maximize the
9 mitigation and restoration charges. So we take the
10 30 million, then we subtract off the water, and the
11 remainder is assigned to power.

12 THE COURT: And the remainder is -- seems
13 to be tied directly to whatever amount is left over
14 to achieve your \$50 million goal, right?

15 THE WITNESS: To achieve the 30 million.

16 THE COURT: Okay, 30 million.

17 THE WITNESS: Yes.

18 THE COURT: It doesn't have any
19 relationship to any level of usage or anything; it's
20 just the amount left over to achieve 50 million?

21 THE WITNESS: That's correct.

22 THE COURT: Right?

23 THE WITNESS: (Nods head)

24 THE COURT: Okay. Sorry for the
25 interruption. Trying to get my arms around this.

639

1 MR. OLIVER: Understood.

2 THE COURT: You said you had a
3 demonstrative.

4 MR. OLIVER: Exactly.

5 BY MR. OLIVER:

6 **Q DDX 1 has been a demonstrative that's
7 already been marked. If I may approach the witness.
8 Dr. Mooney, have you seen this graph
9 before?**

10 A Yes, I have.

11 **Q Can you describe for the Court what it
12 depicts?**

13 A This graph is plotting what the plaintiffs
14 reported would be the proportion of power payments
15 as a function of total collections in the blue line,
16 and comparing that to a flat line that looks to be
17 about 24 percent, which would be an estimate of the
18 repayment obligation currently.

19 **Q You testified about the term "target
20 allocation," correct?**

21 A Correct.

22 **Q Does that have any import with regard to
23 this graph? Does that have any application with
24 regard to this graph?**

25 A The target allocation today at about

640

1 24 percent, you would use the 24 percent number in
2 determining the target allocation, if those -- if
3 that practice was controlling what we collect from
4 power.

5 **Q Are there years in this graph in which**
6 **power is -- percentage of power's collection -- this**
7 **goes back to proportionality -- is below the target**
8 **-- below the level of proportionality, below the**
9 **target allocation?**

10 A There are individual years where power's
11 payments are less than the 24 percent line.

12 **Q What years do they appear in this graph?**

13 A 1993, 1996, 1997, 1998, 1999, 2001, 2004,
14 2007 and 2010.

15 **Q What accounts for -- and there are also**
16 **instances in which power's payments are above what's**
17 **proportional, fair?**

18 A That's correct.

19 **Q And they are indicated -- okay. Let me**
20 **start over.**

21 **What accounts for, in your understanding as**
22 **program manager and implementation of the program,**
23 **the instances in which it's below -- power's**
24 **payments are below proportional and instances in**
25 **which it's above proportional? What accounts for**

641

1 **those swings?**

2 A In any individual year, it is a combination
3 of the high, medium, and low funding cycles as a
4 result of how we implement the three-year rolling
5 average as well as our ability to deliver water and
6 assess mitigation and restoration charges on water
7 delivery.

8 **Q What would affect your ability to affect**
9 **water deliveries?**

10 A In this case, primarily drought, but also
11 biological opinions that restrict it for endangered
12 species act requirements.

13 **Q Okay.**

14 A And possibly some -- possibly some
15 maintenance issues, but that's minor compared to the
16 prior two.

17 **Q Okay. And you mentioned drought**
18 **conditions?**

19 A Yes.

20 **Q Are you familiar when there were drought**
21 **conditions as it relates to the time periods**
22 **reflected in this graph?**

23 A I'm very familiar with the most recent
24 drought.

25 **Q When would that have occurred?**

642

1 A We believe it was about a five-year
2 drought. There are some hydrologists who believe it
3 goes back further than that.

4 **Q What time period, what years?**

5 A In hit particularly hard in 2014 and 2015.

6 THE COURT: It doesn't seem like there's
7 any proportionality calculation going on here at
8 all. The amount that you charge to power is just
9 the difference between your goal and the amount that
10 you charge to water.

11 THE WITNESS: We have not had sufficient
12 water deliveries to where proportionality would be
13 in effect.

14 THE COURT: So if you look at the time
15 period shown on your chart, there is no
16 proportionality calculation at all, right?

17 THE WITNESS: For these years?

18 THE COURT: Yes.

19 THE WITNESS: We have not had to do a
20 proportionality calculation.

21 THE COURT: You just charged power the
22 difference between the goal and the water?

23 THE WITNESS: Correct.

24 THE COURT: Okay.

25 THE WITNESS: Because we know that there's

643

1 no ability to invoke proportionality.

2 BY MR. OLIVER:

3 **Q Can you explain -- can you further explain**
4 **why that -- you say there's no ability to invoke**
5 **proportionality.**

6 **But why is it the case that Reclamation has**
7 **not calculated what would be proportional, power's**
8 **allocation percentage, and then charge power**
9 **according to that percentage, why doesn't**
10 **Reclamation do that?**

11 A Because we believe that direction to
12 collect 50 million takes priority, and that
13 direction requires us to collect 30 million in
14 mitigation and restoration charges, and we have not
15 received sufficient water charges to where we could
16 achieve strict proportionality.

17 **Q Let's focus on the phrase "to the greatest**
18 **degree practicable." Let's imagine a world in which**
19 **that phrase is excised from the statute, okay?**

20 A Okay.

21 **Q So be proportional. What's your**
22 **understanding as to whether or not Reclamation would**
23 **have an obligation to first calculate**
24 **proportionality before concerning itself with the**
25 **\$50 million?**

644

1 A We haven't thoroughly explored that. My
2 hypothesis is that we would have to reduce what we
3 could collect in mitigation and restoration charges,
4 and it would be a hard requirement.

5 **Q Well, let's return back to reality which is**
6 **3047(d) [sic], the proportionality provision in**
7 **3047(d) [sic], contains the phrase "to the greatest**
8 **degree practicable." Fair?**

9 A Fair.

10 **Q Explain for the Court how you see the**
11 **\$50 million funding requirement, which you have**
12 **testified about, and the obligation to achieve**
13 **proportionality to the greatest degree practicable.**
14 **How do those two provisions interact or interrelate?**

15 A We believe that there's a -- that the
16 direction to collect 50 million takes priority over
17 the direction to assess charges proportional to the
18 greatest degree practicable.

19 **Q Assuming everything else stays the same --**

20 A I'm sorry, I didn't --

21 **Q Assuming everything stays the same, keep**
22 **all variables the same looking at this graph, with**
23 **the exception of Reclamation's implementation of**
24 **proportionality, right? Meaning, you've testified**
25 **that water implements proportionality by charging**

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1 **water up to the 6 and 12, the maximum allowed,**
2 **correct? Is that accurate?**

3 A We assess the maximum amount.

4 **Q Okay. Let's just assume a world in which**
5 **Reclamation charged -- consistently charged less**
6 **than the maximum, right? 6 and 12 is a ceiling.**
7 **Imagine Reclamation charged water less under that**
8 **ceiling. How would that affect the peaks that you**
9 **see with respect to power's contributions in this**
10 **graph? What would it look like?**

11 A They would be higher. They'd be more
12 disproportional.

13 **Q Why does Reclamation not do that?**

14 A Because we believe that we're required to
15 achieve proportionality to the greatest degree
16 practicable, and that would require us to maximize
17 our assessments to water.

18 **Q In light of the \$50 million requirement --**
19 **back up. You've testified that non-discretionary**
20 **revenues have not materialized to any significant**
21 **degree since the enactment of the statute; is that**
22 **correct?**

23 A That's correct. The only one that has
24 millions is the Friant surcharge.

25 **Q What impact, if any, has that had on**

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1 **Reclamation's ability to achieve exact**
2 **proportionality?**

3 A Because the non-discretionary charges have
4 not materialized, we've had less implementation of
5 the programs, so it has interfered with our ability
6 to complete the projects. We have not been able to
7 reduce the mitigation and restoration payments which
8 would have provided some relief to power.

9 **Q Previously you testified about 3407(d)(1),**
10 **correct?**

11 A Correct.

12 **Q And so counter-factual, in reality, you**
13 **mentioned the non-discretionaries have not been**
14 **significant, but if you had 30 or, say, \$40 million**
15 **in non-discretionaries realized, what impact would**
16 **that have had on Reclamation's ability to achieve**
17 **exact proportionality?**

18 A Under that scenario where we had 40 million
19 in non-discretionary charges, we would have reduced
20 the mitigation and restoration charges to 10 million
21 and, in that case, we would be assessing the
22 entirety of that mitigation and restoration charge
23 to power, and power would be also disproportionate
24 but less than the cost allocation, so it'd be in
25 power's favor, assuming the cost allocation remained

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1 the same.

2 **Q Understood.**

3 **Are you familiar with the extent to which**
4 **Reclamation law is assigned priority to various**
5 **project purposes?**

6 A I'm familiar.

7 **Q Prior to the CVPIA, can you articulate for**
8 **the Court what those -- what that priority was with**
9 **respect to the various project purposes?**

10 A I believe the first priority was river
11 regulation, flood control, and navigation. The
12 second priority was water deliveries for municipal
13 and industrial and agricultural, or it was called
14 irrigation at that time, and the third priority was
15 power generation.

16 **Q Fast forward to the enactment of the CVPIA.**
17 **Did that change the priority of project purposes**
18 **that you just articulated?**

19 A It added additional project purposes, but
20 it did not reorder the existing project purposes.

21 **Q What project purposes were added?**

22 A It added Fish and Wildlife, mitigation and
23 restoration as having equal priority with water
24 deliveries, and it added Fish and Wildlife
25 enhancement as having equal priority with power

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1 generation.

2 **Q What was the relationship in priority**
3 **between Fish and Wildlife and restoration and power,**
4 **what's the priority between those two?**

5 A Fish and Wildlife mitigation and
6 restoration would be higher than power generation.

7 **Q After CVPIA, what's the priority between**
8 **water, both municipal, industrial, and agricultural,**
9 **versus power?**

10 A Water is higher than power.

11 **Q Let's turn to JX 4, please, page two. Are**
12 **you there?**

13 A Yes, I am.

14 **Q And I want to focus your attention on the**
15 **"Central Valley Project Restoration Fund" on**
16 **page two.**

17 A Okay.

18 **Q Are you familiar with that language?**

19 A Yes, I am. Not this year, but other years
20 with different numbers.

21 **Q But is the basic language the same from**
22 **this year to the previous years, I mean, minus the**
23 **numbers?**

24 A With the exception of the amount, yes.

25 **Q And so focusing on the first sentence,**

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1 there's a reference to roughly \$55.6 million.

2 **Do you see that?**

3 A Yes, I do.

4 **Q What does that correspond to?**

5 A To me, that is our spending ceiling.

6 **Q Can you collect more than that ceiling?**

7 A Yes, we can.

8 **Q But you can't spend more than it?**

9 A Correct.

10 **Q What fund is that in reference to?**

11 A This is the Central Valley Project
12 Restoration Fund.

13 **Q I want to focus your attention on the**
14 **phrase after "provided." Do you see that? Starting**
15 **with: "That the Bureau of Reclamation is directed**
16 **to assess and collect the full amount of additional**
17 **mitigation and restoration payments authorized by**
18 **section 3407(d)."**

19 **Do you see that section, sir?**

20 A Yes, I do.

21 **Q Are you familiar with that section?**

22 A Yes, I am.

23 **Q What's your understanding of what that**
24 **section in the appropriation law means?**

25 A We believe that is the direction to

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1 maximize the mitigation and restoration charges.

2 **Q And what in that language tells you that?**

3 A The full amount.

4 **Q Anything else?**

5 A Just that we're directed to assess and
6 collect the full amount of the additional mitigation
7 and restoration payments.

8 **Q What's your understanding of what the term**
9 **"full amount" means?**

10 A It means the maximum.

11 **Q The maximum of what?**

12 A That would be -- we would look at the CVPIA
13 and see what the -- look at our directives there,
14 and would see what it goes back to in trying to
15 achieve the \$50 million. We would look then to the
16 mitigation and restoration charges and, based on the
17 lack of non-discretionary charges, see the need to
18 assess the 30 million on a three-year rolling
19 average basis, and that would be the full amount.

20 **Q Why do you look back to the statute with**
21 **respect to the appropriations?**

22 A It refers to section 3407(d), and 3407(d)
23 refers to the 3407(c)(2) language.

24 **Q Let's go back to my scenario where you have**
25 **\$40 million in non-discretionary revenue. Let's do**

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1 **a hypothetical and say Reclamation anticipates in a**
2 **particular year 40 million in non-discretionary**
3 **revenue, okay?**

4 A Okay.

5 **Q I understand it may not be something that's**
6 **occurred since '92, but that's hypothetical.**

7 **In that instance, what would the full**
8 **amount authorized be according to this language?**

9 A I believe the full amount would be 10
10 million.

11 **Q How do you get that?**

12 A I take the 50 million -- assuming we're
13 still in 1992 dollars, I take the 50 million, and I
14 subtract 40 million in non-discretionary payments,
15 and then I reduce the mitigation and restoration
16 charges so as not to exceed 50 million, which means
17 I subtract 40 million from 50 million, and I come to
18 \$10 million.

19 **Q Go to JX 6. In particular, page 29 of JX**
20 **6. In particular, Section C of JX 6.**

21 **What is JX 6, by the way?**

22 A JX 6 is the revised interim guidelines for
23 restoration fund payments and charges.

24 **Q So Section C, page 29, what does that**
25 **concern, that Section C on page 29?**

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1 A That addresses the total amount of
2 mitigation and restoration charges.

3 **Q There are references to water limits in**
4 **that section. Do you see that? Or, actually, more**
5 **precisely, there's a reference to a maximum**
6 **restoration payment policy. Do you see that, in**
7 **paragraph C of JX 6?**

8 A I don't see that reference.

9 **Q In bold, in Section C?**

10 A The total restoration payment obligation?

11 **Q It says: "Hereafter this policy shall be**
12 **referred to as the maximum restoration payment**
13 **policy."**

14 **Are we in different sections?**

15 A I think we're on different sections.

16 **Q I'm in JX 6, revised interim guidelines,**
17 **page 29 of the revised interim guidelines, so the**
18 **top subsection should say "C."**

19 **Do you see that now?**

20 A No.

21 **Q Page 29.**

22 A Oh, page of the document.

23 **Q Yes, I'm sorry, page 29 of the revised**
24 **interim guidelines.**

25 THE COURT: We're on page 29 of the

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1 document, not the page 29 next to JTX.

2 BY MR. OLIVER:

3 **Q Oh, I'm sorry, my version here does not**
4 **have the JTX. I apologize for the confusion.**

5 **So what's the JX number on this page,**
6 **Doctor?**

7 A JTX 6/31.

8 **Q Okay. I apologize. JTX 6/31 for the**
9 **record.**

10 **Okay. So now looking at paragraph C. Do**
11 **you see that section?**

12 A Yes, I do.

13 **Q Are you familiar with it?**

14 A I'd have to read it first.

15 **Q Please.**

16 A Yes, I'm familiar with it.

17 **Q Okay. It refers to a maximum restoration**
18 **payment policy. Do you see that reference?**

19 A Yes, I do.

20 **Q What is that policy?**

21 A That policy is the explanation of --
22 there's a summary of this Section C, so that's the
23 policy of charging the 6 and \$12 per acre-foot.

24 **Q For what purpose?**

25 A In order to achieve proportionality to the

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1 greatest degree practicable.

2 **Q Has that been Reclamation's policy since**
3 **the revised interim guidelines forward?**

4 A Yes, it has.

5 **Q To this day?**

6 A Yes, it has.

7 THE COURT: But still power seems to be
8 your safety net to make sure you reach your goal.
9 Isn't that a fair way of looking at it?

10 THE WITNESS: I don't know about safety
11 net, but yes.

12 THE COURT: Because they pay whatever is
13 required to reach your goal?

14 THE WITNESS: Correct.

15 THE COURT: Okay. And there's not any
16 proportionality going on, so whatever that number
17 is, that's what they get charged?

18 THE WITNESS: Proportionality would only
19 occur if water deliveries were higher.

20 THE COURT: Right.

21 BY MR. OLIVER:

22 **Q 3407(d)(1), which we've talked about at**
23 **length, does that contain the phrase "to the**
24 **greatest degree practicable"?**

25 A No, it does not.

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1 **Q Does it have a reference to**
2 **proportionality, 3407(d)(1)?**

3 A It uses the word proportion.

4 **Q Proportionate? You can look at it.**

5 A It uses proportionate basis.

6 **Q So as you mentioned before, in the event**
7 **with (d)(1) where you get a plethora of**
8 **non-discretionaries, what is Reclamation's**
9 **obligation with respect to proportionality in that**
10 **event?**

11 A If Reclamation's --

12 **Q The 40 million, let's say,**
13 **non-discretionaries, so we're taking about**
14 **(d)(2)(1), what's the proportionality obligation in**
15 **that event?**

16 A We would be able to implement the target
17 allocation. We would try to implement the target
18 allocation. So we would reduce the mitigation and
19 restoration payment, and then we would seek to
20 assign those costs as proportionately as we could.

21 **Q But in the reality that's existed since**
22 **1993 where there have not been -- sufficient**
23 **non-discretionary revenues have materialized, what**
24 **ability has Reclamation had to reduce the non --**
25 **excuse me -- to reduce the mitigation and**

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1 restoration payments?

2 A We have had no ability to reduce the
3 mitigation and restoration charges.

4 Q Why?

5 A Because of the requirement to seek 50
6 million.

7 Q You've spoken -- you've testified, I should
8 say, in your questioning with Mr. Ralston about the
9 pathway to proportionality.

10 Do you recall that?

11 A Yes, I do.

12 Q Can you explain to the Court exactly what
13 pathway to proportionality is?

14 A Pathway to proportionality was a term that
15 was coined to represent an interest by Reclamation
16 in seeing what we could do to meet power's concerns,
17 and it was a pathway because we did not believe we
18 could get to strict proportionality. We thought
19 that maybe we could identify ways of getting closer.

20 Q What was your role in that effort?

21 A In, I believe, 2014, it was assigned to me
22 as one of my duties to identify how to address
23 power's concerns. I was directed to go speak with
24 power, identify their concerns and form a
25 multi-agency stakeholder workgroup to see what we

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1 could do to address them.

2 Q What are some of the ideas that were
3 generated through that process to address power's
4 concerns?

5 A There were a number of ideas. One of the
6 ideas would be to look at alternative ways of
7 interpreting the statute. Some of the ideas were to
8 seek changes to appropriations, and some of the
9 ideas were to assess additional charges to water
10 transactions. There may have been others that I
11 don't recall.

12 Q Is there a vetting process involved with
13 respect to the ideas in terms of elevating the ideas
14 to the regional director or to legal?

15 A For this type of process, we would probably
16 do very little vetting at first, and then we would
17 elevate to the regional director after we had
18 sufficient discussions between staff on what we
19 thought different ways might be moved forward, and
20 then at some point we would involve legal to make
21 sure that what we could do was consistent with
22 statute.

23 Q Did some of the ideas that were floated --
24 did you determine during the pathway to
25 proportionality that certain ideas were contrary to

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1 the statute?

2 A We never actually completed this process.
3 I don't believe any of these documents went for
4 legal review. We probably had discussions with
5 legal, but I don't think we ever sought solicitor
6 buy-off.

7 Q Did any of the ideas, were they determined
8 to be viable?

9 A We never completed the process so none of
10 the ideas were --

11 Q Why not? Why didn't you complete the
12 process?

13 A The litigation. It became clear that the
14 plaintiffs were using materials we generated to
15 further their litigation.

16 MR. OLIVER: Is now a time where we could
17 take a break, Your Honor, or are we a little bit
18 shy?

19 THE COURT: Are you about finished?

20 MR. OLIVER: Yes.

21 THE COURT: Okay. Let's take a 15-minute
22 break. We'll come back at 3:10.

23 (Recess taken from 2:52 to 3:12).

24 THE CLERK: All rise. The court is again
25 in session.

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1 THE COURT: Thank you. Please be seated.
2 Go ahead.

3 BY MR. OLIVER:

4 Q All right. Dr. Mooney, you mentioned when
5 we were talking about DDX 1 that there was a certain
6 drought year period. Do you recall that?

7 A Yes, I do.

8 Q Can you just state again for the record
9 what were the drought years -- what were the drought
10 years that are indicated with respect to this graph?

11 A I considered the drought to have started in
12 2008 with a brief pause in 2011.

13 Q And then let's take it forward -- I know
14 it's not indicated in this graph -- but to the
15 present day. Have there been any droughts from 2011
16 forward in California?

17 A I believe the drought declaration was
18 lifted last year.

19 Q So 2008, 2009, you said 2011, and then it
20 was just lifted at what point?

21 A In 2017.

22 Q So in a drought year, if Reclamation were
23 to calculate power's obligation in accordance with
24 what's proportional to their repayment allocation
25 percentage, what effect would that have on

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Reclamation's ability to achieve the \$30 million M&R obligation?

A We would be unable to achieve the 30 million.

Q And, again, if Reclamation under the circumstances were to apply power's payment to make it proportional to the repayment allocation, what effect would that have on the ability of Reclamation to collect the full amount authorized by 3407(d) in accordance with appropriation statutes?

A Can you rephrase that?

Q Yes.

What effect would calculating power's payment obligation, making that proportional to its repayment allocation, what effect would that have on Reclamation's ability to collect the full amount authorized by the appropriation statutes?

A If we applied strict proportionality as power has requested, we would not achieve the full amount.

Q Why do you not do that then? Why do you not calculate proportionality and assess power's payments in accordance with what's proportional?

A We believe appropriations acts directs us to collect the full amount, and the full amount is

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am I right in thinking that they could opt out of the program, assuming of course they could get the power from some other source.

THE WITNESS: I believe -- I'm not familiar with the opt out provisions of the contract, but I know that they exist.

THE COURT: Okay. Thank you.

All right. Mr. Ralston, redirect?

MR. RALSTON: Yes, Your Honor. Thank you.

REDIRECT EXAMINATION

BY MR. RALSTON:

Q Dr. Mooney, if you would put in front of you the demonstrative DDX 1. Do you have that chart handy?

A Yes, I do.

Q All right. And your counsel asked you some questions about it. First, I note that, as I understand the chart -- well, first, did you have a role in preparing this chart?

A I did not.

Q This chart presents the data for M&R payments on an annual basis, correct?

A I'm not sure whether the denominator used for the percentage was M&R payments only or if it was total collections.

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the maximum mitigation and restoration payment in order to seek 50 million in total funding.

MR. OLIVER: That's all I have for right now.

THE COURT: I have one follow-up question.

MR. OLIVER: Okay, subject to.

THE COURT: Sorry?

MR. OLIVER: Okay, I'll -- I'll wait for your question.

THE COURT: This is the danger of giving a judge a break to think about some things. Made me think of another question.

Can you tell me if participation in the CVPIA is mandatory or voluntary? And what I'm suggesting is the City of Rosedale, for example, do they have a choice of whether they want to participate in this program or not?

THE WITNESS: If the City wants to purchase CVP power?

THE COURT: Yes.

THE WITNESS: The CVPIA comes with that. If they do not want CVPIA power, they would not need to sign a contract with Reclamation.

THE COURT: So, presumably, if they thought the deal was really bad and not to their advantage,

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Q Well, the data, however -- I'm just using the actual percentage, it says: Percentage of restoration funds collected from power. And the actual percentage at the bottom in blue is apparently presented on an annual basis. It's not averaged, is it?

A Does not appear to be.

Q Now, the statute requires that the comparison between M&R payments and the repayment allocation be done on a ten-year average basis, right?

A That is correct.

Q Do you have JX 2 in front of you?

A Yes, I do.

Q And that Joint Exhibit shows the respective ten-year rolling averages were mitigation and restoration payments up in the top set of data, correct? The ten-year rolling average column, right?

A Yes, it does.

Q And at the bottom right beneath there it shows for commercial power its ten-year rolling average with respect to repayment allocation, right?

A Yes, it does.

Q So if one were doing the appropriate

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1 comparison between the M&R payments and repayment
2 allocation, it's using the ten-year rolling average,
3 right?

4 A The requirement is for ten-year rolling
5 average.

6 Q In both cases?

7 A Yes.

8 Q Yet the chart here, DDX 1, does not use
9 ten-year rolling average, does it?

10 A It may be using a ten-year rolling average
11 for the proportional average percentage.

12 Q All right. But not for the actual
13 percentage of restoration funds?

14 A Does not appear to be.

15 Q And Reclamation doesn't even really employ
16 the ten-year rolling averages, does it?

17 A What do you mean by that?

18 Q It doesn't employ them because you don't do
19 the proportionality analysis? You don't do, as you
20 testified earlier, the target allocation
21 calculation?

22 A There has not been a need to do the target
23 allocation.

24 Q Let us turn to Joint Exhibit 3 at page 9
25 which is the statute, and that should be section

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1 3406 of the statute. Do you have that in front of
2 you?

3 A Yes, I do.

4 Q And you recall that Mr. Oliver asked you
5 about section 3406(b)?

6 A Yes, I do.

7 Q And referring you to that, this is the
8 section that describes the habitat mitigation and
9 restoration actions that are contained in the Act,
10 correct?

11 A These are the Fish and Wildlife activities.

12 Q And section 3407(d)(2)(a), which we talked
13 about in terms of the reduction from 50 and 30 to 35
14 and 15. You want to go to that? I can refer you to
15 it. It's at JX 3, page 22, towards the bottom of
16 the page where it talks about the 35 and the 15.
17 Now highlight, if you would, "the completion."

18 So upon the completion of the Fish and
19 Wildlife, habitat, mitigation and restoration
20 actions mandated under section 3406 of this title --
21 we just looked at 3406, right?

22 A We looked at 3406(b).

23 Q And those are the fish, wildlife and
24 habitat mitigation and restoration actions that are
25 referenced in this section of the statute, right?

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1 A We believe there are more than just the (b)
2 section.

3 Q All right. But the (b) section is
4 included, correct?

5 A Yes, it is.

6 Q So this section of the statute contemplates
7 a reduction from 50 million to 35 and 30 to 15 upon
8 completion of the activities, at least in 3406(b)
9 and maybe others, right?

10 A Correct.

11 Q So let's go back to 3406(b). How many of
12 the 3406(b) habitat and mitigation and restoration
13 actions contained in that section have been
14 completed as of today?

15 MR. OLIVER: Your Honor, the subject of
16 this -- of Mr. Ralston's questioning regarding the
17 completion requirement and whether or not the
18 activities have been completed should have been
19 addressed in his initial direct if he wanted to
20 explore it. I didn't touch it at all in my recross.
21 This seems to be well beyond the scope of anything I
22 asked Dr. Mooney about.

23 THE COURT: But I remember you did
24 reference 3406 and the various activities. I think
25 23 of them, if I recall correctly.

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1 MR. OLIVER: I did. I referenced the fact
2 that he was responsible for that, that's correct.
3 But I didn't go into the extent to which -- you
4 know, the status of their completion. I didn't open
5 the door to that, Your Honor. I could have, but I
6 didn't.

7 THE COURT: I think maybe you're parsing
8 the limits a little too finely, and I'll overrule
9 the objection.

10 MR. RALSTON: Thank you, Your Honor.
11 BY MR. RALSTON:

12 Q We used the 23 that were referred to by
13 counsel. How many of those 23 actions have been
14 completed as of today?

15 A I'm not sure if all of the -- I remember
16 the total number, but not the specific provisions.
17 I would have to look, and I'm not sure if my total
18 number would be just (b) actions or if they would
19 include others.

20 Q Have any been completed?

21 A Of the (b) actions? Yes. We have
22 completed 14 of the provisions in the CVPIA, and I
23 don't know whether that would be -- whether all of
24 those 14 are under (b). I would have to write them
25 out.

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1 **Q So 14 have been completed, yes?**
 2 A Correct.
 3 **Q There is at least 23 in 3406(b), correct?**
 4 A There are 23 paragraphs.
 5 **Q All right. 23 specified actions in**
 6 **3406(b), correct?**
 7 A Correct.
 8 **Q So we have at least 23. 14 have been done.**
 9 **So there's at least nine that haven't been**
 10 **completed, right?**
 11 A We identified some as -- well, some are
 12 authorizations for different types of water
 13 operations, so those would be ongoing and completion
 14 doesn't apply to those activities.
 15 **Q So some of those actions are ongoing so**
 16 **they will never be completed?**
 17 A Correct.
 18 **Q CVPIA was enacted in 1992?**
 19 A Can I go back to the completion?
 20 **Q Sure.**
 21 A Some of them don't have a completion
 22 component to it.
 23 **Q So they will never be completed?**
 24 A Completion would not be an applicable term
 25 for describing those.

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1 **Q In fact, does Reclamation even have a**
 2 **defined term for completion with respect to the**
 3 **projects in 3406(b)?**
 4 A We have the CVPIA program activities review
 5 report that describes when we think actions will be
 6 completed and which actions we believe are not at
 7 completion.
 8 **Q That's the so-called CPAR report, right?**
 9 A That's correct.
 10 **Q And a host of those activities are ongoing**
 11 **and will never be completed, right?**
 12 A Some of those activities are ongoing so
 13 completion would not apply.
 14 **Q And we are here, what, some 24, 25 years**
 15 **almost since enactment of the CVPIA and still not**
 16 **completed?**
 17 A Some activities remain to be completed.
 18 **Q And how much approximately has been**
 19 **collected and spent with respect to the restoration**
 20 **fund to date? And you can go to JX 2, last column,**
 21 **you'll see a number just a shade over a billion.**
 22 **Does that reflect pretty close to the amount of**
 23 **total collections in the history of the restoration**
 24 **fund?**
 25 A This chart looks like something our finance

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1 division would have prepared.
 2 **Q And is there a number on the right-hand**
 3 **side down at the bottom, your total receipts column,**
 4 **and it ends with 1,071,277,727?**
 5 A Yes, it does.
 6 **Q Does that represent the total receipts over**
 7 **the life of the CVPIA restoration fund?**
 8 A It looks reasonable through 2016.
 9 **Q So over a billion has been spent on**
 10 **activities under 3406(b) and others and still not**
 11 **completed, correct?**
 12 A May not have been spent. There could be
 13 some -- sorry.
 14 **Q A billion has been collected, all right.**
 15 **Your counsel asked you about the term**
 16 **"limitations" that was used in your deposition, and**
 17 **as I recall your testimony, you said that you didn't**
 18 **understand how that term was being used in your**
 19 **deposition. Do you remember that testimony?**
 20 A I remember that I had to clarify in my
 21 deposition later what was limiting the amounts
 22 versus allocation.
 23 **Q We'll turn to that in a moment, but as to**
 24 **the term "limitations," you didn't correctly use**
 25 **that term in your deposition, did you?**

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1 A I thought that that was referring to the
 2 different paragraphs and text within 3407(d).
 3 **Q All right. And counsel asked you if the**
 4 **"greatest degree practicable" term came out of the**
 5 **proportionality limit in 3406(d)(2) what would**
 6 **happen?**
 7 A I thought if it said that they shall be
 8 proportional, we would collect on a proportionate
 9 basis.
 10 **Q Because the proportional duty would then be**
 11 **absolute, wouldn't it?**
 12 A We would see that as an absolute
 13 requirement.
 14 **Q If the proportionality limitation, or to**
 15 **use your term, if the proportionality provision**
 16 **weren't in the statute at all, period, how would**
 17 **that change what Reclamation does today with respect**
 18 **to the mitigation and restoration charges?**
 19 A We believe there would not have been those
 20 sections in the interim guidelines that were seeking
 21 to address the water collections.
 22 **Q So how would that change today if it**
 23 **weren't in the Act?**
 24 A The practical implementation?
 25 **Q Yes.**

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1 A We would continue to assess the 6 and 12
2 from water, and power would pay the remainder.

3 **Q So there would be no change at all if the**
4 **provision weren't in the statute, would there?**

5 A Our practice would be functionally the
6 same.

7 **Q If I understand your new interpretation**
8 **correctly that the only limitations in 3407(d) that**
9 **affect the \$50 million number are those that are**
10 **preceded by the term "provided;" is that correct, or**
11 **"provided further"?**

12 A That's my understanding today.

13 **Q All right. So under that construct, there**
14 **is no linkage between the 50 million provision in**
15 **3407(c)(2) and the proportionality provision at all,**
16 **is there?**

17 A It would only be linked by a reduction from
18 non-discretionary payments.

19 **Q Because under your construct, the**
20 **proportionality limit -- I'm sorry -- provision has**
21 **no bearing on the 50 million, does it?**

22 A It has a bearing on what we can charge for
23 mitigation and restoration to -- and it limits -- it
24 would cause a reduction in the mitigation and
25 restoration payments and in how we achieve the 50

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1 we could go to the exact proportionality in the
2 target allocation.

3 **Q If it went over the allocation percentage**
4 **for water, you could reduce the 6 and the 12, right?**

5 A Yes, we could.

6 **Q There's no provision for reducing power's**
7 **payment with respect to power being over its**
8 **allocable repayment, is there?**

9 A Yes, there is.

10 **Q In (h)(3)?**

11 A I don't know if it's in --

12 **Q Well, let's go to it. Let's go to the**
13 **revised interim guidelines.**

14 A Do you recall what number that was?

15 **Q It's Joint Exhibit 6. Page 29 as in text**
16 **29, JX 31.**

17 A I'm going to have to read to find where the
18 (d)(1) provision is implemented unless you know.

19 **Q Focus on C on page JX 31.**

20 A Okay.

21 **Q So as you testified, the maximum**
22 **restoration payment policy in subsection C refers to**
23 **the setting of the rates at 6 and 12 respectively,**
24 **the maximum rate, to use your term, right?**

25 A Correct.

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1 million.

2 **Q How so?**

3 A If the non-discretionary charges were
4 greater than the 20 million, we would reduce the
5 mitigation and restoration charges, and we would
6 seek to do so in a manner that was proportional to
7 the greatest degree practicable.

8 **Q Well, that's not provided for under (h)(3)**
9 **now, is it, under the revised interim guidelines?**

10 A That is described in the revised interim
11 guidelines.

12 **Q Let's use your example. If**
13 **non-discretionary charges were more than \$20 million**
14 **a year --**

15 A Correct.

16 **Q -- correct? In which case you would be**
17 **below the ceiling of the 30 million, right?**

18 A You would reduce the \$30 million ceiling.

19 **Q Yes. And in that circumstance, the only**
20 **action authorized on the guidelines is to reduce the**
21 **6 and the 12 if the target allocation exceeds it for**
22 **water, isn't it?**

23 A It would reduce the \$30 million, and we
24 would maintain the 6 and the 12 until such time as
25 that caused a disproportionate payment by water and

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1 **Q Come down to the second paragraph, and it**
2 **says: The maximum restoration payment policy shall**
3 **remain in full force and effect unless and until the**
4 **record of historic actual revenues demonstrates that**
5 **the percentage allocations to either or both of the**
6 **irrigation and M&I water supply functions will**
7 **exceed their respectable shares relative to the**
8 **target allocation.**

9 **That means, does it not, Doctor, that the**
10 **only change in the maximum restoration payment**
11 **policy occurs if allocation shares relative to**
12 **irrigation and M&I water are exceeded, right?**

13 A That's what that sentence states.

14 **Q And there's nothing there about power, is**
15 **there?**

16 A There is nothing about power in that
17 section.

18 **Q So there is absolutely no provision at all**
19 **for the reduction of anything under this section**
20 **with respect to power exceeding its target**
21 **allocation, is there?**

22 A That's correct.

23 **Q And there isn't any other provision in the**
24 **revised interim guidelines that would accomplish it**
25 **either, is there?**

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1 A Yes, there is.
 2 **Q Which is what?**
 3 A I believe that would be under the section
 4 (3)(a) when it discusses reducing the mitigation and
 5 restoration charges.
 6 **Q Address us to the section. (3)(a) of this**
 7 **section?**
 8 A Correct.
 9 **Q All right. Which one?**
 10 A I believe that would be the (3)(a)(2).
 11 **Q That's adjustment of the 30 million,**
 12 **correct?**
 13 A Correct.
 14 **Q That's the overall number, right?**
 15 A And if that number were adjusted below 12
 16 and a half million then power would be paying less
 17 than its proportionate share.
 18 **Q Everyone would be paying less, wouldn't**
 19 **they, if the \$30 million came down, right?**
 20 A Water would be paying more.
 21 **Q Water overall because you're including**
 22 **non-discretionary numbers there, right? Let's use**
 23 **the example of 40 million, right?**
 24 A For?
 25 **Q 40 million that your counsel gave you, if**

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1 **there's 40 million in non-discretionary charges --**
 2 A Okay.
 3 **Q -- right? There would be 10 million in**
 4 **power charges as you testified, right?**
 5 A Correct.
 6 **Q And you're using this example here, this**
 7 **section, to get that result?**
 8 A Correct.
 9 **Q So as a result of that happening, the 40**
 10 **and the 10, power has come down to 10 and then is**
 11 **roughly what, 20 percent of the total amount,**
 12 **correct?**
 13 A Correct.
 14 **Q But that's simply a result of getting more**
 15 **water revenues overall, right?**
 16 A Correct.
 17 **Q And you're there trying to be proportional**
 18 **to the greatest degree practicable, right?**
 19 A Correct.
 20 **Q Even under that example, power would be in**
 21 **that year still at 20 percent versus a repayment**
 22 **allocation of 26 for that one year, right?**
 23 A So I would expect that if those conditions
 24 occurred, they would persist beyond a single year.
 25 **Q They may or may not, but the point is**

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1 **there's no change in the maximum restoration payment**
 2 **policy here otherwise, is there?**
 3 A That would be a situation where water had
 4 paid more so the maximum restoration policy would no
 5 longer be in effect.
 6 **Q By virtue of having been more than**
 7 **\$20 million, right?**
 8 A By virtue of exceeding their proportional
 9 amount.
 10 **Q No, by virtue of there being collections of**
 11 **non-discretionary amounts, right?**
 12 A I don't believe so.
 13 **Q Well, if you don't get more than the 20**
 14 **million in non-discretionary amounts, the 30 million**
 15 **stays in effect, doesn't it?**
 16 A Yes, it does.
 17 **Q All right. So your whole scenario of the**
 18 **40 million only occurs if you get more than 20**
 19 **million, right?**
 20 A Correct.
 21 **Q That reduces the 30 million, yes? That's**
 22 **true, correct?**
 23 A Yes, it does.
 24 **Q That's it. That's it. Short of that**
 25 **happening, and that's never happened, has it?**

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1 A It has not happened.
 2 **Q There is no relief for power at all under**
 3 **(h)-- (c), is there?**
 4 A We don't believe that CVPIA has relief for
 5 power.
 6 **Q So under those circumstances, power**
 7 **continues to pay the difference, doesn't it?**
 8 A Under which circumstances?
 9 **Q Unless the non-discretionary charges go**
 10 **over 20 million?**
 11 A It's possible that mitigation and
 12 restoration charges from water could exceed a
 13 proportional amount.
 14 **Q They could. Yes, they could. Sure, they**
 15 **could. No question they could. Have they?**
 16 A In individual years they have.
 17 **Q On a ten-year rolling average?**
 18 A Not in the historical record.
 19 **Q Staying with the maximum restoration**
 20 **payment policy, you testified that under that**
 21 **Reclamation sets -- gets the maximum amount from its**
 22 **water customers -- I think I'm pretty close to what**
 23 **you said -- because it set the 6 and the 12 at its**
 24 **highest number. Do you recall that testimony?**
 25 A I believe I said Reclamation maximizes the

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1 charges to water.

2 **Q Ah. Well, that's exactly my point. The 6**
3 **and the 12 are rates, they're charges, right? They**
4 **are charge rates, correct?**

5 A I'm not sure if there's a specific meaning
6 to -- I just call them mitigation and restoration
7 charges.

8 **Q But they are not amounts -- the amount of**
9 **M&R charges paid by water customers is a function of**
10 **the 6 and the 12 times acre-feet, right?**

11 A Correct.

12 **Q That generates the amount of payment by**
13 **water customers in M&R payments, doesn't it?**

14 A Yes.

15 **Q The maximum restoration policy simply sets**
16 **the rate at 6 and 12 adjusted for inflation,**
17 **correct?**

18 A What do you mean by "simply"?

19 **Q That's all it does.**

20 A That's what the maximum restoration policy
21 does.

22 **Q It sets the rates, not the amount?**

23 A Rates set the amount, so I say incorrect.

24 **Q How so?**

25 A The rates are a portion of how we get to

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1 A The guidelines describe policies that
2 change the amount, and the guidelines describe
3 policies that change the allocation.

4 **Q All right. Then let's go to your**
5 **deposition transcript at page 155. And I was asking**
6 **you whether you saw -- this is now at lines seven**
7 **and down.**

8 **You said: I characterize the different**
9 **provisions that way. There is no Bureau policy that**
10 **says this is an allocation amount or this is a total**
11 **amount. Referring to that policy. Was that a**
12 **truthful statement?**

13 A Correct. There is no defined term of
14 allocation amount or -- there is no defined term of
15 this is an allocation policy, and there's no defined
16 term that this is a total amount policy.

17 **Q You talked a good deal with your counsel**
18 **about what occurred in drought years, and you were**
19 **looking at the chart. And the outcome in drought**
20 **years, just using the charts you were looking at,**
21 **PTX 1, you were attributing, I gather, the highly**
22 **disproportionate situation in 2014 and '15 to**
23 **drought, correct?**

24 A Correct.

25 **Q So doesn't that demonstrate that your**

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1 the amount.

2 **Q Yes, they are a factor in how the amount is**
3 **determined, right?**

4 A They are a factor in the amount that we
5 collect.

6 **Q Yes. So the policy, the maximum**
7 **restoration policy sets the rates, which are one of**
8 **two factors in determination of the amount, correct?**

9 A Correct.

10 **Q You were talking about, with your counsel,**
11 **this concept of some of the limits in 3407(d)**
12 **concern amounts and others concern allocations.**

13 **Do you remember that discussion you had**
14 **with counsel?**

15 A Yes, I do.

16 **Q Let's go to your deposition transcript at**
17 **155.**

18 **Before we do that, I'm sorry, is there any**
19 **support in the revised interim guidelines for the**
20 **distinction between limits in 3407(d)(2) that are**
21 **amounts versus allocations?**

22 A I'm describing how we implement them.

23 **Q So it's essentially how you implement them?**

24 A I'm not the one who implements rates.

25 **Q It's not in the guidelines, is it?**

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1 **implementation of the M&R payments construct isn't**
2 **reasonable because it doesn't work in drought years,**
3 **does it?**

4 MR. OLIVER: Objection. Argumentative.

5 THE COURT: Overruled.

6 THE WITNESS: I think our limitation is
7 consistent with the law.

8 BY MR. RALSTON:

9 **Q Even though it results in 85 percent**
10 **disproportionality in drought years?**

11 A I don't think we have a choice in that
12 matter.

13 **Q Ah. Well, you at one point I recall**
14 **testified that 45 million in a year would be**
15 **unreasonable, didn't you?**

16 A I don't think we have a choice in that
17 matter.

18 **Q But that isn't what you proposed in 2014,**
19 **was it?**

20 MR. OLIVER: Objection. Vague and
21 ambiguous.

22 MR. RALSTON: I'll withdraw the question.

23 BY MR. RALSTON:

24 **Q You talked about the mid-year adjustment**
25 **not being in the CVPIA. It is, however, in the 1995**

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1 **agreement between Western and Reclamation that we**
2 **examined, isn't it?**

3 A The letter?

4 **Q Yes.**

5 A Yes, it is.

6 **Q And that covers the mid-year adjustment,**
7 **doesn't it?**

8 A That letter establishes the mid-year
9 adjustment.

10 **Q Again, staying with the CVPIA, is there**
11 **anything in the CVPIA that authorizes the biasing**
12 **of water estimates?**

13 A There is nothing in the CVPIA that
14 addresses water estimates.

15 **Q Biasing or otherwise?**

16 A There's nothing in the CVPIA that addresses
17 how we estimate water.

18 **Q You testified that CVP power wanted**
19 **Reclamation to stabilize the M&R payments/charges,**
20 **correct?**

21 A At one point in time that was raised as a
22 concern, but in that effort it was found that was
23 not their underlying concern.

24 **Q Because their underlying concern -- in**
25 **fact, their highest priority as we talked about**

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1 in order to pay less.

2 **Q And you listed it as a highest priority in**
3 **your document, didn't you?**

4 A I identified in our discussions with WAPA
5 that that was the highest priority when we were
6 listing issues from power.

7 **Q Your counsel asked you whether**
8 **proportionality was a viable option to stabilize**
9 **payments. Do you remember that question?**

10 A Yes, I do.

11 **Q And you answered you didn't have the**
12 **authority to do proportionality, which didn't**
13 **respond to your counsel's question. Proportionality**
14 **would stabilize the M&R payments, wouldn't it?**

15 A No, it would not.

16 **Q And why wouldn't it?**

17 A Because water payments would still
18 fluctuate; therefore, power payments would still
19 fluctuate.

20 **Q But they all would be proportionate to**
21 **their respective payment allocations, wouldn't they?**

22 A That has nothing to do with stabilization.

23 **Q They could still somewhat vary, all right.**

24 **You mentioned the Warren Act is**
25 **considerably of some length and time. Didn't the**

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1 **earlier was proportionality, wasn't it?**

2 A I believe their highest priority was paying
3 less regardless of whether it was proportional or
4 not.

5 **Q Well, you talked about being equitable.**
6 **Weren't they arguing for equity?**

7 A That was one of their initial arguments,
8 but it was not borne out in the solutions that they
9 found that they thought would be acceptable.

10 **Q So they wanted to become what? They wanted**
11 **to be disproportionate to power? They wanted to**
12 **make water pay it all?**

13 MR. OLIVER: Objection. It's argumentative
14 and mischaracterizes testimony.

15 THE COURT: Overruled.

16 THE WITNESS: My understanding is that
17 power wanted to pay less and they did not want water
18 to pay more.

19 BY MR. RALSTON:

20 **Q They wanted to pay less to get to**
21 **proportionality, didn't they?**

22 A I don't believe proportionality was the
23 sole criteria.

24 **Q It was one of the criteria?**

25 A It was one of the arguments they were using

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1 **CVPIA amend the Warren Act?**

2 A I believe it did. I believe it added Fish
3 and Wildlife authority -- I believe it added Fish
4 and Wildlife to the Warren Act authority.

5 **Q And it also generally amends and**
6 **supplements all prior Reclamation law, doesn't it?**

7 A The Warren Act?

8 **Q No. The CVPIA.**

9 A The CVPIA amendment.

10 **Q And supplements prior Reclamation law,**
11 **doesn't it.**

12 A I can look up the exact phrase, if you'd
13 like.

14 **Q Sure.**

15 A Correct. It amends and supplements the Act
16 of June 17, 1902, and acts supplementary thereto and
17 amendatory thereof.

18 **Q Thank you.**

19 **You talked about, with your counsel, the**
20 **CVPIA priority structure or CVP priority structure**
21 **in which, as I recall, you identified that water was**
22 **the second priority and power was the third**
23 **priority.**

24 **Do you remember that testimony?**

25 A Water was the second tier priority.

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1 **Q Second tier priority. And power is the**
2 **third, correct?**

3 A Correct.

4 **Q So explain to us how is it then that power**
5 **who is the third priority, is in the -- as JX 2**
6 **shows over the last many ten-year periods been the**
7 **number one payer of M&R payments?**

8 A My understanding of Reclamation history is
9 that the sale of surplus power has always been one
10 of the elements that assists in the feasibility of
11 Reclamation projects, but our primary purpose is the
12 river regulation, flood control, navigation. Our
13 second tier would be the water deliveries, and
14 surplus power is something we do to assist in the
15 economics.

16 **Q So isn't it a rather perverse priority**
17 **outcome that power, the number three in the priority**
18 **structure, pays the most, and water which is number**
19 **two in the priority structure pays the least?**

20 MR. OLIVER: Objection. Argumentative.

21 THE COURT: Overruled.

22 THE WITNESS: That's consistent with how we
23 implement Reclamation law in general. For example,
24 the ability to pay has power bearing the cost when
25 the water rates exceed the ability of the districts

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1 to pay. That's a consistent aspect of Reclamation
2 law.

3 BY MR. RALSTON:

4 **Q So, essentially, from the payment side, the**
5 **Reclamation policy is, if you can get more money**
6 **from power, that is appropriate in the priority**
7 **structure?**

8 MR. OLIVER: Objection. Argumentative.

9 THE COURT: Overruled.

10 THE WITNESS: I don't know the answer to
11 that. I just know these two implementations.

12 BY MR. RALSTON:

13 **Q And my last question, Your Honor.**

14 **Turn briefly, Dr. Mooney, to the**
15 **relationship between 3407(c)(2), the 50 million**
16 **requirement, and the annual appropriations laws.**

17 **If the \$50 million requirement, as you've**
18 **described it, in 3407(c)(2) is the driver, it**
19 **requires, as you testified, trying to get 50 million**
20 **a year, correct?**

21 A Correct.

22 **Q Why are the appropriations laws relevant at**
23 **all if you're required under the CVPIA to get 50**
24 **million?**

25 A We believe section 3407(c)(1) makes the

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1 mitigation and restoration payments subject to
2 appropriations.

3 **Q So the \$50 million requirement isn't an**
4 **absolute one, is it?**

5 A We believe it's a requirement subject to
6 the (c)(1).

7 **Q Subject to appropriations?**

8 A Correct.

9 **Q And appropriations in the sense of the duty**
10 **to collect, not the duty or the opportunity to**
11 **spend, right?**

12 A We believe we require appropriations in
13 order to collect on the mitigation and restoration
14 payments.

15 MR. RALSTON: Your Honor, if I may have
16 just a moment.

17 (Brief pause in proceedings)

18 MR. RALSTON: Last question here, Your
19 Honor, truly.

20 BY MR. RALSTON:

21 **Q Back briefly to the 40 and \$10 million**
22 **example that we discussed earlier, Dr. Mooney. In**
23 **the event that 40 million in non-discretionary**
24 **charges were collected, which we get down below the**
25 **30 million, as you testified, right?**

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1 A Correct.

2 **Q The outcome that power would only pay 10**
3 **million is not a result of proportionality, but is**
4 **rather the result of section 3407(d)(1) that**
5 **dictates that, right?**

6 A That is partly true and partly
7 proportionality.

8 **Q How would the proportionality provision**
9 **play any role in that outcome?**

10 A The proportionality would determine how we
11 collect from water versus from power for that
12 remaining 10 million.

13 **Q Which would be a hundred percent from**
14 **power?**

15 A Correct.

16 **Q And that's considered proportional?**

17 A That would be our implementation of
18 proportionality to the greatest degree practicable.

19 **Q Getting the hundred percent remainder from**
20 **power?**

21 A Would be proportionality to the greatest
22 degree practicable.

23 **Q Which is gaining the remaining amount from**
24 **power, correct?**

25 A Correct.

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1 MR. RALSTON: Thank you, Your Honor.
 2 THE COURT: All right. Mr. Oliver,
 3 anything further?
 4 MR. OLIVER: Yes, Your Honor.
 5 RECROSS-EXAMINATION
 6 BY MR. OLIVER:
 7 Q The scenario that Mr. Ralston just
 8 mentioned where there's \$40 million in
 9 non-discretionary revenue, that means there's
 10 \$10 million in mitigation and restoration charges,
 11 what would be the applicable provision in 3047(d) --
 12 3407(d), what would be the applicable provision in
 13 that scenario?
 14 A For reducing the collections from 30 to 10,
 15 the applicable provision would be (d)(1).
 16 Q Does that provision contain proportionality
 17 language?
 18 A Not a power proportionality language.
 19 Q I didn't ask about power. Does it have
 20 language concerning proportionality or proportional
 21 payments?
 22 A It has a proportional basis for the
 23 mitigation and restoration charge.
 24 Q In your testimony concerning the completion
 25 requirement in 3407(d), you reference the fact that

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1 there's certain ongoing activities or certain
 2 activities that are not subject to the completion
 3 requirement. Do you recall that?
 4 A Yes, I do.
 5 Q Those activities are not subject to the
 6 completion requirement. Would their status have any
 7 bearing on reducing the M&R charges?
 8 A We had not fully addressed that question in
 9 the CPAR, so I don't know the full answer. My
 10 expectation would be that some of those activities
 11 do not require any funding and would not be a
 12 factor.
 13 Q In the M&R charge?
 14 A Correct.
 15 Q I want to talk about protections for water
 16 in 30407 -- 3407. The water ceiling, the cap on 6
 17 and the 12 that we've talked about, that you
 18 testified, is that a protection for water?
 19 A I believe it is.
 20 Q The ability-to-pay relief provision that
 21 you testified, is that protection for water?
 22 A I believe it is.
 23 Q Is there a similar protection for power
 24 that Congress provided in 3407 that caps power's
 25 payments?

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1 A \$30 million.
 2 Q But that's water and power together,
 3 correct?
 4 A Correct.
 5 Q Is there a provision that specifically
 6 limits how much Reclamation can charge power by
 7 itself?
 8 A There is no provision specific to power.
 9 Q You testified about the Warren Act and the
 10 fact that the CVPIA amended the Warren Act, correct?
 11 A Correct.
 12 Q Did Congress in amending the CVPIA with
 13 respect to -- excuse me -- by amending -- let me
 14 start over.
 15 Congress in enacting the CVPIA which
 16 amended the Warren Act, did it indicate that any
 17 fees related to the Warren Act would go into the
 18 restoration fund?
 19 A It did not.
 20 Q What is your understanding as to where fees
 21 that are associated with the Warren Act go? What
 22 fund do they go into?
 23 A They are required to go to the Reclamation
 24 fund.
 25 Q Mr. Ralston talked about the perverse

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1 consequences of Reclamation's methodology of
 2 calculating mitigation and restoration payments. Do
 3 you recall that?
 4 A Yes, I do.
 5 Q Is Reclamation's methodology for assessing
 6 mitigation and restoration payments, have they been
 7 the same since 1992?
 8 A I believe at least since 1993.
 9 Q 1993?
 10 Do you know whether or not power customers
 11 who have participated in the CVPIA have renewed
 12 their contracts during that time?
 13 A I believe they renewed their contracts
 14 after the expiration of the mitigation contract and
 15 the new marketing plan by Western.
 16 Q Which was when?
 17 A I don't know when they renewed. The
 18 integration contract expired, I believe, in around
 19 2005.
 20 MR. OLIVER: No further questions, Your
 21 Honor.
 22 THE COURT: All right. Dr. Mooney, thank
 23 you very much for your testimony. You are excused.
 24 THE WITNESS: Thank you. Do I need to do
 25 anything with these books?

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1 THE COURT: No. Your counsel having put
2 you to all this trouble, they're going to take care
3 of it.
4 THE WITNESS: Thank you.
5 MR. RALSTON: Your Honor, I have the binder
6 for the next witness.
7 MR. MURRAY: There are actually two
8 binders, Your Honor, for Ms. Wolfe.
9 THE COURT: You didn't hear about the one
10 binder limit?
11 MR. MURRAY: There would have been one
12 bigger binder. You know how lawyers are, Your
13 Honor.
14 THE COURT: All right. Shall we call this
15 next witness.
16 MR. MURRAY: Yes, Your Honor. Plaintiffs
17 would call Autumn Wolfe as the next witness.
18 THE COURT: Please come forward, ma'am.
19 Good afternoon.
20 THE WITNESS: Good afternoon.
21 THE COURT: Come on up to the witness box
22 and raise your right hand please.
23 AUTUMN WOLFE,
24 called as a witness on behalf of the Plaintiffs
25 herein, was duly sworn, examined, and testified as

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1 follows:
2 DIRECT EXAMINATION
3 BY MR. MURRAY:
4 **Q Ms. Wolfe, could you state your name for**
5 **the record, please?**
6 A My name is Autumn Wolfe.
7 **Q And you are employed at the Bureau of**
8 **Reclamation?**
9 A Yes, sir.
10 **Q In the Mid-Pacific reason?**
11 A Yes, sir.
12 **Q And what's your current position?**
13 A Currently I'm the financial manager.
14 **Q For the Mid-Pacific Region?**
15 A For the Mid-Pacific Region.
16 **Q And what are your duties as the financial**
17 **manager?**
18 A As a financial manager I oversee our
19 accounting services branch and our rate setting
20 branch along with our working capital fund. So that
21 involves project financial statements for all of our
22 projects in the MP region. It involves setting
23 water rates for our Central Valley Project and our
24 Cachuma project and also project repayment of the
25 federal investment, among other duties.

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1 **Q And when you mention project repayment, is**
2 **that the cost allocation or allocation for repayment**
3 **of the CVP?**
4 A Yes, sir, and for other projects as well.
5 **Q In your role as regional financial manager,**
6 **do you have oversight over the activities of the**
7 **Mid-Pacific Region in terms of collecting payments**
8 **from water contractors?**
9 A At a high level, yes, sir.
10 **Q And describe that high level for me.**
11 A So our payments for our accounts receivable
12 team, they are in our accounting services branch,
13 and the accounting services branch reports to
14 myself.
15 **Q You mentioned another team, I think the**
16 **rate setting team?**
17 A Yes, sir.
18 **Q They are a different team than the accounts**
19 **receivable team?**
20 A Yes, sir. They are in the rate setting
21 branch.
22 **Q And what is the difference in their role**
23 **compared to the accounts receivable team?**
24 A The rate setting team basically looks at
25 water charges and CVPIA charges, and the accounts

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1 receivable team processes payments received from
2 water contractors.
3 **Q And you mentioned that they look at CVPIA**
4 **charges. What are they looking at there?**
5 A For example, the rate setting team, they do
6 annual accountings for contractors, and as part of
7 that annual accounting process they look at
8 deliveries for water, and typically the same
9 deliveries apply to restoration fund charges for the
10 mitigation and restoration fund payment, and so they
11 -- they compare the two.
12 **Q And so if I'm understanding correctly, and**
13 **certainly correct me if I'm wrong, so the accounts**
14 **receivable team would be the people who are**
15 **responsible for receiving the actual financial**
16 **payments and processing them and assigning them to**
17 **the right funds, correct?**
18 A Yes, sir.
19 **Q And then the rate setting team would be**
20 **involved in setting the water rates that the water**
21 **contractors would pay, and then following up at the**
22 **end of the year to make sure that the water delivery**
23 **records match up with what's been paid, and doing**
24 **sort of a reconciliation of amounts owed versus**
25 **amounts paid, correct?**

700

1 A Yes, sir.
 2 **Q Now, when you gave your deposition in this**
 3 **case, you were in a different position than you are**
 4 **now?**
 5 A Yes, sir.
 6 **Q What was that?**
 7 A I was the rate setting manager at the time.
 8 **Q Is that one position below where you are**
 9 **now?**
 10 A Yes, sir.
 11 **Q And the head of the rate setting team we**
 12 **just talked about?**
 13 A Yes, sir.
 14 MR. MURRAY: And, Your Honor, I don't know
 15 if this is necessary, but since Ms. Wolfe is with
 16 the Bureau of Reclamation, I intend to proceed with
 17 leading questions at this point.
 18 THE COURT: Any objection, Mr. Oliver?
 19 MR. OLIVER: No objection, Your Honor.
 20 THE COURT: All right. Very well.
 21 BY MR. MURRAY:
 22 **Q Before turning to the substance of your**
 23 **testimony, have you spoken with anyone at the Bureau**
 24 **this week about the events in this trial so far?**
 25 A No, sir.

701

1 **Q Let's pull up Plaintiffs' Exhibit 10.**
 2 **Now, Ms. Wolfe, I mentioned you had given a**
 3 **deposition in this case. Were you a 30(b)(6)**
 4 **designee on a particular subject matter topic?**
 5 A Yes, sir.
 6 **Q And let's go to page 8 of this and**
 7 **highlight 16.**
 8 **And is this the topic on Plaintiffs'**
 9 **Exhibit 10 at page 8, topic number 16, that you were**
 10 **responsible for testifying for the government on at**
 11 **your deposition?**
 12 A Yes, sir.
 13 **Q And so this involves the implementation of**
 14 **CVPIA provisions governing other potential sources**
 15 **of funding. So, in your mind, is this somewhat**
 16 **equivalent to a term we've heard, non-discretionary**
 17 **payments?**
 18 A Yes, sir.
 19 **Q And so you're familiar with those**
 20 **non-discretionary payments and what Reclamation is**
 21 **doing to implement those provisions, correct?**
 22 A Yes, sir.
 23 **Q And let's just pull up Exhibit 11 very**
 24 **quickly, and if we look down there on number 16,**
 25 **this is where you were officially designated as the**

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1 **person for that topic, correct?**
 2 A I have not seen this before but I do see my
 3 name next to number 16, so I would say that's yes.
 4 **Q But you recall from your own memory that**
 5 **that was the topic you were designated for?**
 6 A Yes, sir.
 7 **Q Now, let's pull up Joint Exhibit 1, if we**
 8 **can. And we've given you binders, Ms. Wolfe, there.**
 9 **Some of the exhibits may be easier to follow on the**
 10 **screen. If there are other lengthier ones you feel**
 11 **you need to page through, the binders are there for**
 12 **you and, hopefully, the tabs won't be too confusing.**
 13 **So we talked just a moment ago about a term**
 14 **non-discretionary payments. Looking at Joint**
 15 **Exhibit 1, can you identify which of these columns**
 16 **would cover those?**
 17 A That would include the pre-renewal charge,
 18 RF1; the transfer water charge, RF2; tiered water
 19 charges, RF3; the Friant surcharges, RF4; the M&I
 20 surcharge, RF6. That would be all.
 21 **Q And non-federal contributions is**
 22 **essentially donations or other contributions you get**
 23 **that aren't very -- a regular part of the process?**
 24 A Yes, sir.
 25 **Q And so these are -- are you familiar with**

703

1 **sort of the 50 million and 30 million dollar**
 2 **ceilings with the CVPIA?**
 3 A Yes, sir.
 4 **Q And so these are not the M&R charges that**
 5 **power pays into that are within the \$30 million**
 6 **ceiling; these are charges that would potentially**
 7 **push the ceiling up towards 50, correct?**
 8 A Yes, sir.
 9 **Q And I guess just looking at a couple of**
 10 **these, obviously, the pre-renewal charge, it looks**
 11 **like there have been no collections at least**
 12 **certainly since 1969 in that category, have there**
 13 **been?**
 14 A No, there have not.
 15 **Q And this doesn't go all the way back to**
 16 **1993, but is it safe to say there have been none**
 17 **since 1993 either?**
 18 A There have been none.
 19 **Q All right. And then if we look at transfer**
 20 **of water, can you explain some of the negative**
 21 **entries here in 2004 and 2005?**
 22 A The accounting for the receipts for CVPIA
 23 restoration fund charges is done by our CVPIA
 24 accountant who is in our accounting services branch,
 25 and so she is the one that prepared this. So this

704

1 is not something that I prepare. However, from just
2 looking at it, I would say it looks like those
3 negative amounts were adjustments.

4 **Q I'm sorry, and when you say your CVPIA**
5 **accountant, you mean by Ms. Trujillo-Bixby?**

6 A Yes, sir.

7 **Q When you say adjustments, would that be a**
8 **refund of the money out of the restoration fund?**

9 A Or it could have been misapplied charges
10 that were not due and therefore reversed.

11 **Q But in terms of how it would impact the**
12 **cash that's in the restoration fund, a negative**
13 **amount here would indicate cash coming out of the**
14 **restoration fund?**

15 A Yes, sir.

16 **Q And so certainly since 2006 it seems or**
17 **actually even 2004 with the adjustments, there's**
18 **really been very little income in the transferred**
19 **water charge, correct?**

20 A That's correct.

21 **Q And if we look at the tiered water charge,**
22 **what is the tiered water charge, if you know?**

23 A Yeah. The tiered water charge is for when
24 a contractor takes between 80 and 90 percent of
25 their contract entitlement, they are charged what we

705

1 call a second tier. And then if they take between
2 90 percent and 100 percent of their contract
3 entitlement, then they are charged a third tier.

4 **Q I'm going to try to describe it and**
5 **certainly tell me if I'm inaccurate, but as I**
6 **understand it, it's somewhat of a staircase premium**
7 **that's paid, the more water you take over the 80**
8 **percent, if you're in the 80 to 90, it's in a**
9 **certain level, and then the 90 to the 100, it's an**
10 **extra level of payment to sort of attempt to**
11 **discourage you, perhaps, from taking the full 100**
12 **percent allotment. Is that a fair description?**

13 A I wouldn't know if it's very discouraging,
14 but it definitely helps the restoration fund if they
15 take more water, so --

16 **Q If someone is getting 100 percent contract**
17 **allotment and is taking that 100 percent contract**
18 **allotment of their water, there's going to be more**
19 **money that's going to show up in this RF3 category,**
20 **and it will end up going into the restoration fund?**

21 A Yes, sir, and it counts towards that 20
22 million.

23 **Q And toward the 50 million altogether?**

24 A You're right. You're right.

25 **Q All right. And the Friant surcharge,**

706

1 **that's a special charge for a particular geographic**
2 **region? Or explain that to me.**

3 A Yes. That's a charge for our Friant
4 contractors on their Class 1 and Class 2 water.

5 **Q Now, you just mentioned the Class 1 and**
6 **Class 2. Can you explain what those terms mean?**

7 A Class 1 water is the full cost of service
8 water rate. That includes O&M and construction.
9 And class 2, I don't recall right off the top of my
10 head the Class 2 classification, but I do know Class
11 2 -- I apologize, I cut you off there -- the Class 2
12 acre-feet are not included for purposes of
13 allocating storage cost. So it might have something
14 to do with storage or available water.

15 **Q Is that because the Class 2 water is rarely**
16 **provided?**

17 A It could be. I would have to refresh my
18 memory on that.

19 **Q And would Mr. Woodley know more about Class**
20 **2 water?**

21 A He would. Thank you.

22 **Q But the terms Class 1 and Class 2, that**
23 **really only applies to the Friant division**
24 **contractors, correct?**

25 A Yes, sir. And I wanted to point out that

707

1 the mitigation and restoration charge is applied to
2 both classes of water.

3 **Q So if a Friant division contractor is**
4 **receiving Class 1, there's M&R payment associated**
5 **with that as well as the Friant surcharge?**

6 A Yes, sir.

7 **Q Hence the name surcharge, it's a charge on**
8 **top of the other charge, correct?**

9 A Yes, sir.

10 **Q How about the M&I surcharge, what is that?**

11 A So the M&I surcharge is when -- the M&I
12 surcharge is when project water is delivered to a
13 non-CVP contractor. It can be either directly
14 delivered by Reclamation or it can be transferred
15 from a CVP contractor to a non-CVP contractor.

16 **Q And the M&I aspect of it, does that somehow**
17 **tie into the nature of the surcharge?**

18 A Yes, the water would have to be transferred
19 for M&I purposes.

20 **Q Does it have to be irrigation water that's**
21 **being transferred, or can it be M&I water that's**
22 **transferred?**

23 A As far as I know, it's M&I water that's
24 transferred for M&I purposes.

25 **Q So, again, the reference to surcharge, does**

708

1 **that water have a mitigation and restoration payment**
2 **RF5 charge associated with it?**

3 A Yes, sir.

4 **Q So the M&I surcharge is on top of that?**

5 A Yes, sir, and that M&I surcharge is
6 indexed.

7 **Q And that's indexed from \$25 in 1992**
8 **dollars?**

9 A Yes, sir.

10 **Q And I see that has not been a very**
11 **significant source of revenue either, has it?**

12 A Through probably about 2016 I think we've
13 only collected about \$2 million total from '92 to
14 current.

15 **Q Now, if I were to -- well, first let me**
16 **ask, what steps has Reclamation taken to attempt to**
17 **maximize the revenue received under these**
18 **non-discretionary charges we talked about? And I**
19 **guess let's take them one at a time. Pre-renewal I**
20 **guess we can skip since that's sort of a thing of**
21 **the past.**

22 A True.

23 **Q What about transferred water; what steps**
24 **has Reclamation taken to maximize its receipts in**
25 **the RF2 fund?**

709

1 A For transfer of water, our area office,
2 they have repayment specialists who handle the entry
3 of water deliveries into our Bureau of Reclamation
4 water operations recordkeeping systems. For short
5 we call it BORWORKS. And they are also responsible
6 for handling transfers of water between customers.
7 And so those repayment specialists, any time there
8 is a water transfer, they work with our contracts
9 management division to develop a transfer agreement
10 between the two parties and with Reclamation. And
11 as part of that agreement, there's what we call a
12 rate exhibit. And in that rate exhibit it
13 identifies the services being provided and the
14 different charges that go with the transfer of that
15 water.

16 And when those rate exhibits are completed,
17 they're sent to rate setting within our regional
18 office for our review to ensure that we are in
19 agreement with the different charges that have been
20 identified, and that gives us an opportunity to look
21 for any applicable CVPIA charges if they were missed
22 at their office level.

23 In addition to that, we have revised our
24 business practice guidelines for water transfers.
25 That was done back in 2012. And the reason we did

710

1 that was because we wanted to have a source document
2 for our area offices that they can refer to when
3 they are not certain what charges are applicable to
4 water transfers, especially under CVPIA because
5 sometimes that can be a little confusing. And so we
6 updated those business practice guidelines.

7 And, also, we undertook an effort where we
8 reviewed transfers in our BORWORKS system to do a
9 review of any potential transfers between CVP and
10 non-CVP that may have been missed because we did
11 note that the total charges for that category of
12 CVPIA is very, very low. So we did do a review. We
13 did that in conjunction with the contracts
14 management branch, so that's Mr. Woodley's shop.
15 And so that's another effort that we took to -- to
16 verify that we were appropriately collecting.

17 **Q And so you mentioned a few things there,**
18 **and I want to try to unpack it a little bit.**

19 **You mentioned revising some business**
20 **practice guidelines or issuing some in 2012?**

21 A Yes, sir. It was a revision of business
22 practice guidelines.

23 **Q And so there was a prior business practice**
24 **guideline applicable to these water transfer**
25 **transactions that was clarified or amended?**

711

1 A Yes, sir.

2 **Q And the clarification or amendment was**
3 **because of concerns that some of the folks in the**
4 **area offices who were collecting charges or issuing**
5 **bills were not capturing all of the water transfer**
6 **charges that might be there?**

7 A Yes, sir. They were filling out the rate
8 exhibits, and so we wanted to make sure that they
9 had that resource to refer to when they developed
10 the rate exhibits for water transfers.

11 **Q And was the intent of the business practice**
12 **guidelines to clarify or to indicate to the staff**
13 **there what the water transfer charge provisions of**
14 **the revised interim guidelines were so that they**
15 **would know when a charge would be appropriate?**

16 A Our repayment specialists are familiar with
17 CVPIA, but the business practice guidelines were
18 revised because we wanted to make sure they fully
19 understood. So there were some cases where there
20 was some confusion so we did, like you said,
21 clarify.

22 **Q But in terms of the clarification, it was**
23 **going back to the provisions of the interim**
24 **guidelines as opposed to new policy, or was it**
25 **adopting a new policy in terms of what transfers are**

712

1 covered?

2 A So, basically, what it did is it provided
3 examples and decision trees so that a repayment
4 specialist could kind of walk through the different
5 steps to decide what charges are applicable for that
6 transfer. So it made the process more clear.

7 Q You also mentioned, I guess, going back
8 through historically to look for charges that had
9 been potentially missed. That was sort of a
10 historical look back process of some prior
11 transfers?

12 A Yes, sir.

13 Q Was there any effort that's been undertaken
14 to determine whether the criteria for applying the
15 water transfer charge has been -- should be expanded
16 beyond what Reclamation had established or not
17 established in the interim guidelines?

18 A I can't say. Within finance, no, not that
19 I'm aware of. However, our CVPIA program manager,
20 we've had several different folks in that position,
21 and at sometime they may have explored different
22 potential opportunities for applying that charge
23 maybe. I can't say for sure.

24 Q But you're not aware of any step that's
25 been taken in your tenure at Reclamation to broaden

713

1 the scope of water transactions that would be
2 subject to the transferred water charge?

3 A Not that I'm aware of. I'm just trying to
4 understand how it would do that. The Act tells us
5 how that water charge is applicable, and I'm not
6 sure how we could apply it differently.

7 Q And so in terms of, if I was looking for
8 guidance, written policies, or anything else from
9 Reclamation on how the CVPIA says, really, any of
10 these non-discretionary charges should be applied,
11 where I would go to find that?

12 A We have business practice guidelines from
13 2003 that speak to CVPIA accounting and cost
14 recovery.

15 Q Okay. But I'm talking about determining
16 which types of water transactions are subject to
17 which types of charges; would that be the revised
18 interim guidelines?

19 A I'm sorry, I misunderstood you. Yes, sir.

20 Q Is there any other written policy guidance
21 on what water should be charged or policies in that
22 regard that you're aware of within Reclamation?

23 A Are you speaking to transfers or just water
24 charges?

25 Q I'm speaking basically to all the

714

1 non-discretionary charges.

2 A So the non-discretionary charges, we have
3 the Act itself. We have the 2003 revised business
4 practice guidelines that speak to CVPIA accounting
5 and cost recovery. And then, of course, we have the
6 business practice guidelines for water transfers
7 from 2012 that were updated, but typically those
8 three source documents we use.

9 Back in 2012, we did draft a CVPIA
10 financial obligations report, but that never was
11 finalized, and that report did have a chapter in it
12 that did describe the different charges. But,
13 again, that was never finalized.

14 Q And so that draft report is not official
15 policy or guidance?

16 A No, it is not.

17 Q I don't think you mentioned the revised
18 interim guidelines. Are the revised interim
19 guidelines from 1993 policy or guidance that is
20 applied by Reclamation in terms of what charges
21 should be applied?

22 A Yes, sir, that's applicable as well.

23 Q If we can pull up Joint Exhibit 3 at page
24 8. We may need to go back a page just to orient.

25 You mentioned that the Act, the CVPIA, you

715

1 reviewed that before?

2 A Yes, sir.

3 Q And let's even go back one more page just
4 so we get the section number. It's a long section
5 so go on back. One more. All right. There it is
6 at the bottom.

7 This is section 3405 of the CVPIA, or at
8 least the first page of it. Is this section one of
9 the sections that governs the water transfer charge?

10 A Yes, sir.

11 Q And let's go to -- actually, go back to
12 page 8, and there is a description here about rate
13 -- first rate tier and a second rate tier on this
14 page and, if we need to go back a page to get to the
15 beginning of this, but is this the provision that
16 deals with the tiered pricing charge that we were
17 discussing earlier?

18 A So the first part you showed me water
19 transfers, and so are you saying that the tiered is
20 under the water transfer title; is that the
21 connection between the two?

22 Q Well, I pointed to the heading of this
23 section, and I think this is 3504(d), but let's go
24 back a page just to -- and if it helps to thumb
25 through your binder, volume one should have the

716

1 statute in it. You can confirm whether that's --

2 A Okay, yeah, that I'm familiar with what was
3 just highlighted. I've seen that, and that is in
4 conjunction with the tiered prices.

5 Q Okay. And the tiered pricing requirement
6 is one that is required under the CVPIA for all
7 renewal contracts, correct?

8 A Yes, sir.

9 Q So if a contractor who was an existing CVP
10 water contractor at the time the CVPIA was passed,
11 their contract was about to come up, and they are
12 going to renew it for another long-term contract,
13 the tiered pricing provision is mandatory in that
14 long-term renewal, isn't it?

15 A Yes, it is. I believe it is. Mr. Woodley
16 would know better than I would because that's part
17 of the contracting piece.

18 Q So that's potentially a Mr. Woodley
19 question.

20 Do you know whether the rate setting
21 division has looked at alternative tier pricing rate
22 structures from what was laid out in the interim
23 guidelines to increase tier pricing revenues?

24 A I can tell you that from a tiered pricing
25 perspective what we have done is we have automated

717

1 that calculation in our BORWORKS system, and so
2 there was an automatic trigger to charge the second
3 tier when a contractor hits 80 percent of the
4 contract max, and then the third tier when they hit
5 90 percent of contract max. And by automating it,
6 that makes it an automatic charge so that it helps
7 so that it's not missed. But as far as how we could
8 potentially apply that charge differently, we have
9 not, from a finance perspective, that I'm aware of,
10 I don't believe that we have looked at other ways to
11 apply tier charges.

12 Q And if we look at the section here where
13 they talk about the different tiers, they don't
14 spell out specifically how you would determine the
15 pricing at the first year versus the second tier, do
16 they?

17 A Well, it says under number two that water
18 over 80 percent and under 90 percent. Are you
19 suggesting that maybe that doesn't apply to contract
20 maximum?

21 Q No. Let me try and clarify. So I
22 understand the statute spells out the 80 percent and
23 the 90 percent.

24 A Okay.

25 Q But there is some leeway here, is there

718

1 not, in terms of what exact rate you would apply as
2 the premium at the 80 percent versus the 90 percent?

3 A Oh, I see. I don't see that here as well,
4 and I am not aware of us looking at that
5 differently.

6 Q And so there were some judgments made at
7 the time of the interim guidelines in 1993 as to
8 what those tiered rates should be, and you're not
9 aware of any effort since then to see whether those
10 could be raised to increase the tiered pricing
11 revenues?

12 A Not that I'm aware of.

13 Q And this may be a Mr. Woodley question if
14 it's in his contracting field, but are you aware
15 whether Reclamation has applied the tiered pricing
16 provision to all of the long-term contracts that
17 have been renewed since the CVPIA?

18 A They have been applied to contracts that
19 are greater than three years because we do have
20 interim renewal contracts where I don't believe the
21 tiered pricing provision is included.

22 Q And do you know what the basis for not
23 including the tiered pricing provision in the
24 interim renewal contracts is?

25 A As far as I know, it's just the nature of

719

1 the length of the contract. Those interim renewal
2 contracts are only two years, and you have to have a
3 contract three years or greater to add that
4 provision.

5 Q So is it your understanding that a contract
6 that's three years or less in length is prohibited
7 from having a tiered pricing provision?

8 A I think the Act speaks to it being
9 applicable to contracts that are three years or
10 greater. And so our interim renewal contracts are
11 two years, so it doesn't meet that criteria.

12 Q Well, let's -- let's look through this
13 section carefully and see.

14 Do you see anything in here where it says
15 -- it does say at the top of the -- or the bottom of
16 the previous page that:

17 All Central Valley Project water service or
18 repayment contracts for a term longer than three
19 years for agricultural, municipal, or industrial
20 purposes that are entered into, renewed, or amended
21 under any provision of federal Reclamation law after
22 the date of enactment of this title shall provide
23 this tiered pricing structure.

24 So it does mandate it for anything longer
25 than three years, correct?

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1 A Yes, sir.

2 **Q Do you see anything in here that says you**
3 **shall not include one in an interim renewal contract**
4 **that's less than three years?**

5 A I don't see where it says that
6 specifically, no.

7 **Q And so if Reclamation were looking to**
8 **maximize it's tiered pricing revenue, wouldn't it**
9 **want to include the tiered pricing provision in**
10 **every contract it was not prohibited from including**
11 **it in?**

12 A To be honest with you, that's more on the
13 contracting side which is kind of outside the scope
14 of the finance piece, but Mr. Woodley might be able
15 to speak to that.

16 **Q But you don't have an opinion or insight**
17 **into that at this point based on your role?**

18 A No, right now, I don't. This is the first
19 that I've even thought about that.

20 **Q Do you know whether Reclamation has taken a**
21 **position as to whether the Sacramento River**
22 **settlement contracts are subject to a tiered pricing**
23 **charge?**

24 A I can't say for sure. Mr. Woodley would be
25 able to answer that.

721

1 **Q Understood. Let's turn to Joint Exhibit 6,**
2 **if we could, which is the revised interim**
3 **guidelines.**

4 **You're familiar with this document,**
5 **correct?**

6 A Yes, sir. It's been a while since I looked
7 at it, though.

8 **Q All right. Let's go to page 13, I believe.**
9 **Actually, let's go to Joint Exhibit 6, page 19.**

10 **And so this is part E of the revised**
11 **interim guideline, Ms. Wolfe. Can you tell if this**
12 **section describes the transferred water rates we**
13 **were discussing earlier?**

14 A Yes, the title does say "Transferred Water
15 Rates."

16 **Q And I want to turn to the next page. I**
17 **guess it's paragraph number 3 under this section**
18 **called "Banking of Transferred Water." Do you see**
19 **that section?**

20 A Yes, sir.

21 **Q And so this indicates that when transferred**
22 **project water is banked with an intermediary, a**
23 **third party, for the principal purpose of providing**
24 **a future water supply to the transferee, it's**
25 **regarded as delivered project water when it gets**

722

1 **delivered to the intermediary, I guess, the water**
2 **bank, and not later when it's withdrawn from the**
3 **bank. Do you see that there?**

4 A Can I have a minute to just read that?

5 **Q Sure, absolutely.**

6 A Okay. Yes.

7 **Q And so you would agree that this indicates**
8 **that banked water is subject to the transferred**
9 **water charge, correct?**

10 A From reading this, it sounds as if that
11 would be the case because it's been delivered. It's
12 been transferred and it's been banked, and banked is
13 being considered the point of delivery.

14 **Q And your understanding is that the**
15 **transferred water charge would apply to water that's**
16 **been delivered, and so the charge would be assessed**
17 **with the delivery, correct?**

18 A Yes, sir, if it's from a CVP contractor to
19 a non-CVP contractor.

20 **Q And understood it has to meet the other**
21 **criteria.**

22 A Okay.

23 **Q But assuming it meets the other criteria**
24 **for the transferred water charge, transferring it to**
25 **a water bank under the interim guidelines would be**

723

1 **subject to the water transfer charge, correct?**

2 A That's what this appears to be referring
3 to.

4 **Q An exchange of water is when one contractor**
5 **transfers water to somebody else with an**
6 **understanding that they are going to get some water**
7 **transferred back in the future, correct?**

8 A That's the general idea. A lot of times
9 what it is is that sometimes we'll exchange project
10 water for non-project water and it's for a like
11 amount.

12 **Q But individual contractors can do that,**
13 **too, correct? An individual CVP water contractor**
14 **could enter into an exchange with a state water**
15 **project contractor who is not a CVP water contractor**
16 **and could say: I'll give you a thousand acre-feet**
17 **of my project water supply today, and then next year**
18 **you'll give me a thousand acre-feet of your state**
19 **water project water supply back, correct?**

20 A I'm not sure of the specifics there. I
21 think Mr. Woodley might know.

22 **Q That's a Mr. Woodley question?**

23 A Yes. I apologize.

24 THE COURT: I think we better hear from
25 Mr. Woodley.

724

1 MR. MURRAY: Yeah, it sounds like it. His
2 dance card is getting full.

3 BY MR. MURRAY:

4 **Q Well, let me turn to Plaintiffs'**
5 **Exhibit 266 at page 63.**

6 **First, let's go back to the first page**
7 **first to orient Ms. Wolfe with the exhibit. You**
8 **mentioned earlier a draft contractor financial**
9 **obligations report. Is this Plaintiffs' Exhibit 266**
10 **the report you had in mind?**

11 A Yes, sir.

12 **Q So this was a report that was only a draft,**
13 **never finalized, not official policy or guidance,**
14 **right?**

15 A Yes, sir.

16 **Q So let's go now, jump ahead back to page**
17 **63, and there is discussion on this page of the**
18 **water transfer charges. Do you see that?**

19 **Well, before we blow this up, let's go up**
20 **to the top there, and this is a section that deals**
21 **with water transfer charges to CVP to non-CVP**
22 **contractors having been less than 50,000 a year.**

23 **Is your understanding this is talking about**
24 **the water transfer charges we were just looking at**
25 **in the CVPIA?**

725

1 A That's my understanding, yes.

2 **Q If we could now go down a little bit**
3 **further on the page, and let's look at the bottom of**
4 **the page. It's actually in the part underneath**
5 **that, too. All right.**

6 **So this statement in this draft report**
7 **indicates that transfers that otherwise would fit**
8 **the water transfer charge that involved water**
9 **banking transactions were not subject to CVPIA**
10 **transferred pricing.**

11 **Do you see that there?**

12 A I do see that.

13 **Q Is that your understanding of current**
14 **Mid-Pacific Region policy in terms of when to apply**
15 **the water transfer charge?**

16 A My current understanding is that CVPIA
17 charges are not applied to water banking.

18 **Q And so that would be inconsistent with what**
19 **Reclamation said in 1993, correct?**

20 A Yes, sir, from what we looked at, yes, sir.

21 **Q So since issuing or publishing the revised**
22 **interim guidelines on CVPIA charges, Reclamation has**
23 **adopted a position that is more narrow in terms of**
24 **what types of water transactions are subject to this**
25 **water transfer charge. Is that a fair statement?**

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1 A I don't know if I would say that. There
2 could have been supporting documentation for why
3 this has changed over time, and there may be
4 something out there. I just don't know.

5 **Q But you don't know, as you sit here today,**
6 **what that supporting documentation would be?**

7 A You're right, sir.

8 **Q And this also references exchanges and**
9 **indicates those are not subject to CVPIA transfer**
10 **pricing. Is that your understanding of your current**
11 **policy as well?**

12 A Yes, it is. However, Reclamation has
13 changed its interpretation in its administration of
14 charges sometimes. So usually when that happens,
15 there's documentation for that. And so it may exist
16 and I'm just not aware of it.

17 **Q So since the interim guidelines were issued**
18 **in 1993, Reclamation has on occasion determined that**
19 **its interpretation of the statute in the interim**
20 **guidelines was wrong, correct?**

21 A There was one situation where we had
22 included exchange contractors as part of a
23 calculation. I'm not sure if it was water transfers
24 or not, but then a determination was made not long
25 after, like in 1997, where the exchange contractors

727

1 would be excluded. So -- but that was pretty well
2 documented throughout the process, and so that's why
3 I'm hesitating to say that nothing exists that would
4 explain why our records show something from 1993 and
5 then something different currently.

6 **Q Understood. And I'm not asking you to**
7 **opine on things you don't know about.**

8 A Thank you.

9 **Q No, that's fine. That's why I asked you at**
10 **the beginning of where would I look if I were**
11 **looking for the official guidance on how to apply**
12 **these charges, and you gave me a certain category of**
13 **documents.**

14 **To your knowledge, do any of those**
15 **documents address the decision to exclude water**
16 **banking transactions from the water transfer charge?**

17 A My personal knowledge is I don't believe
18 they do.

19 **Q And what about the decision to exclude**
20 **exchanges from the water transfer charges, is that**
21 **covered in any of those three documents you**
22 **mentioned?**

23 A I think it is, and I can't say for sure
24 which one it is, but that's the only reason I know
25 is because it is covered in one of those documents.

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1 **Q You mentioned a moment ago about a**
 2 **determination by Reclamation related to the exchange**
 3 **contractors and excluding them after the interim**
 4 **guidelines when they had been included in something**
 5 **in the interim guidelines. Is that your testimony?**

6 A Yes. I can't say for sure which charge it
 7 was under. I think it was under water transfer
 8 charges, but the interim guidelines were in 1993, I
 9 believe, and I think the change happened, like, in
 10 '97, so it wasn't that far afterwards. And the only
 11 reason I'm saying that is to point out that, you
 12 know, there have been instances where, you know,
 13 interpretations have changed for how we're going to
 14 apply, and it was documented so --

15 **Q But right now you're not able to tell me**
 16 **what document it is, you just believe that it was**
 17 **documented somewhere?**

18 A Otherwise, I wouldn't know about it.
 19 That's what I'm saying, I'm sorry. It's in one of
 20 those documents I mentioned.

21 **Q Do you know if it's been published in the**
 22 **Federal Record anywhere?**

23 A I don't know, sir.

24 **Q Are you aware of any instance since the**
 25 **interim guidelines in which Reclamation has changed**

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1 **its interpretation in a manner to apply the charge**
 2 **to more water rather than less water?**

3 A I've only been with Reclamation since 2006
 4 so I can't say what happened before me. Since I've
 5 been in my position from 2006 current, I don't
 6 believe we have changed our policy for applying
 7 restoration charges to more water, but I can't say
 8 for certain.

9 **Q And I want to be clear. Right now I'm**
 10 **talking about any restoration charge, not just the**
 11 **water transfer charge.**

12 **And so as you sit here today, you cannot**
 13 **recall in your time at Reclamation since 2006 any**
 14 **change in policy by Reclamation that would expand**
 15 **the types of water or categories of water to which a**
 16 **restoration fund charge is applied; is that correct?**

17 A Not that I can speak to right now that I
 18 remember.

19 **Q But you can remember at least one in which**
 20 **Reclamation changed its policy in a way that**
 21 **narrowed the category of water transactions that are**
 22 **subject to restoration fund charges?**

23 A In that one instance because I read through
 24 one of these documents not that long ago, and I
 25 remember that sticking out.

730

1 **Q Let's go to Plaintiffs' Exhibit 264,**
 2 **please.**

3 **And, Ms. Wolfe, do you recognize this**
 4 **document?**

5 A Is this from our business practice
 6 guidelines for water transfers?

7 **Q I think so. If it helps to look in the**
 8 **second volume, it's probably there that you can**
 9 **thumb through, if you need to see all of the pages.**

10 A Does it have a cover page? That might be
 11 the cover page, okay. So, yeah, I believe that's
 12 what this is. Well, no, because of the date on the
 13 bottom -- oh, yeah, November 2012, yes, that's what
 14 this is.

15 **Q And so it's fairly faint down there at the**
 16 **bottom, but it says: Original May 2008, revised**
 17 **November 2012.**

18 **Is that your recollection of sort of the**
 19 **chronology of this business practice guideline?**

20 A Yes, sir.

21 **Q And so you mentioned it was revised. The**
 22 **original would have been the May 2008 one, this was**
 23 **the first time this was published?**

24 A Yes, sir.

25 **Q And if we go to -- should be seventh page**

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1 **of this. Section -- let's see. Yeah, it is that**
 2 **page. I just was confused by not seeing the**
 3 **heading.**

4 **So if we look at 1-e here, which I guess is**
 5 **the first lettered item at the top. Your business**
 6 **practice guidelines say: CVP restoration fund**
 7 **charges are paid by the transferor after the water**
 8 **is delivered to the transferee, and that the charge**
 9 **then goes to the restoration fund. And this says if**
 10 **the transferor has ATP relief, restoration charge is**
 11 **not due.**

12 **Now, let me first, ATP is ability to pay?**

13 A Yes, sir.

14 **Q So this indicating that if the transferor,**
 15 **a water contractor who is transferring water has**
 16 **itself ability-to-pay relief and they are**
 17 **transferring to someone else that they don't have to**
 18 **pay the water transfer charge even if the person**
 19 **they are transferring it to does not have ability to**
 20 **pay relief, correct?**

21 A Yes, that's what this is saying, yes, sir.

22 **Q And so this is the guidance you're giving**
 23 **to the people who actually assess the water transfer**
 24 **charges out in the field, correct?**

25 A Yes, sir.

732

1 **Q And they are supposed to follow this as a**
 2 **decision tree in deciding whether to assess a water**
 3 **charge for the transfer charge that would go into**
 4 **the restoration fund?**

5 A Yes, sir, we provided this as a resource
 6 document for them.

7 **Q Now, the ability-to-pay concept, there's a**
 8 **study that has to be done for the contractor,**
 9 **correct?**

10 A Yes, sir.

11 **Q And the study involves sort of a fairly**
 12 **detailed economic analysis of the crops that they**
 13 **grow on their land and whether those crops are**
 14 **sufficiently valuable to warrant some sort of**
 15 **economic ability to pay certain water charges,**
 16 **correct?**

17 A Yes. So just for clarification, the ATP
 18 analysis can be done on a contractor level or it can
 19 be done for a group of contractors within the same
 20 regional area who grow similar crops. And as part
 21 of that process, our economists determine payment
 22 capacity, and they make a determination whether the
 23 contractor has the ability to pay for Reclamation
 24 Central Valley Project water.

25 **Q And the ability-to-pay relief study focuses**

733

1 **only on irrigation water, correct?**

2 A Yes, sir.

3 **Q Because there's no such thing, no such**
 4 **animal as ability-to-pay relief for municipal and**
 5 **industrial water, correct?**

6 A That's correct.

7 **Q So, essentially, it's an analysis for a**
 8 **farmer or group of farmers growing some kind of**
 9 **crop, alfalfa, almonds, whatever, in the Central**
 10 **Valley, and assessing are they making enough from**
 11 **their crops to be able to pay the restoration fund**
 12 **charges, the M&R charges, excuse me. Are other**
 13 **charges exempt from ability to pay?**

14 A So a contractor can have ability-to-pay
 15 relief from the construction component of their
 16 water rate and their mitigation and restoration
 17 charge, and it can be partial. So it doesn't
 18 necessarily mean that they are relieved of the
 19 entire charge. It could be a partial relief.

20 **Q So if the 6 or the 12 -- I guess it's the**
 21 **\$6 is all we're talking about because it's only**
 22 **irrigation, if the \$6 inflated to a particular year**
 23 **is now \$10, the finding might be that they can't**
 24 **afford the \$10 per acre-foot for the irrigation**
 25 **water, but they can afford 3 or 4?**

734

1 A Yes.

2 **Q And if that's the case, they still have to**
 3 **pay the 3 or 4 per acre-foot on the mitigation and**
 4 **restoration water -- excuse me -- the irrigation**
 5 **water is subject to the M&R charge, but they don't**
 6 **have to pay the full freight; is that correct?**

7 A That is correct. They pay a partial for
 8 the mitigation and restoration charge.

9 **Q Let's go to Joint Exhibit 3, page 22, if we**
 10 **can.**

11 THE COURT: Mr. Murray, shall we hold that
 12 until tomorrow morning?

13 MR. MURRAY: Absolutely we can, Your Honor.

14 THE COURT: Let's adjourn for today. We'll
 15 reconvene at 9:30 tomorrow morning.

16 (Proceedings adjourned a 4:56 p.m.)
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1 STATE OF CALIFORNIA)
 2) ss.
 3 COUNTY OF SAN FRANCISCO)
 4

5 I, VICKI A. HAINES, do hereby certify that
 6 I am a Certified Shorthand Reporter pursuant to the
 7 laws of the State of California;

8 That acting as such reporter, I took down
 9 in stenotype the testimony given and proceedings had
 10 in the within-entitled action fully, truly and
 11 correctly.

12 That I thereafter caused the foregoing
 13 proceedings of said cause to be transcribed into
 14 typewriting, and that the foregoing pages constitute
 15 a true and correct transcript of said stenotype so
 16 taken.

17
 18 Dated this 15th day of February, 2018.
 19

20 s/Vicki Haines
 21 VICKI HAINES, CSR No. 5995
 22
 23
 24
 25

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ADMITTED EXHIBITS

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1/18/2018

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Central Valley Project Final Cost Allocation Study



Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Acronyms and Abbreviations

- AF: acre-feet
- BCI: Building Cost Index
- BO: biological opinion
- BPG: Business Practice Guidelines for CVPIA Receipts, Program Accounting, Cost Allocation, and Cost Recovery
- CAISO: California Independent System Operator
- CAS: cost allocation study
- CEC: California Energy Commission
- COA: coordinated operations agreement
- CVP: Central Valley Project
- CVPIA: Central Valley Project Improvement Act
- Delta: San Francisco Bay Delta
- DWR: California Department of Water Resources
- FWPCA: Federal Water Project Recreation Act of 1965
- GDP: gross domestic product
- GWh: gigawatt-hour
- IDC: interest during construction
- km: kilometer(s)
- LCPSIM: least cost planning simulation model
- LTGEN: long-term generation
- M&I: municipal and industrial
- MCD: major cost driver
- MMBtu: million British thermal units
- MW: megawatt
- MWh: megawatt-hour
- O&M: operation and maintenance
- OM&R: operation, maintenance, and replacement
- OMWEM: other municipal water economics model
- P&Gs: Principles and Guidelines

- PG&E: Pacific Gas and Electric
- Pump-Gen: pump-generating
- RAX: replacement, additions, and extraordinary maintenance
- Reclamation: Bureau of Reclamation
- RJE: remaining justifiable expenditure
- ROD: Record of Decision
- RPA: reasonable and prudent alternatives
- SCRB: separable costs-remaining benefits
- SOD: Safety of Dams
- SPA: single-purpose alternative
- SSJRBS: Sacramento and San Joaquin Rivers Basin Study
- SWAP: statewide agricultural production model
- SWP: State Water Project
- SWRCB: State Water Resources Control Board
- TAF: thousand acre-feet
- TBD: to be determined
- USACE: U.S. Army Corps of Engineers; Sacramento District
- USFWS: U.S. Fish and Wildlife Service
- WAPA: Western Area Power Administration
- WRC: Water Resources Council
- XO&M: extraordinary operations and maintenance

Executive Summary

The Central Valley Project (CVP) is a multipurpose water resources project operated by the Bureau of Reclamation (Reclamation) that supplies water to more than 200 long-term water contractors in the Central Valley, the San Francisco Bay Area, and the Santa Clara Valley. The CVP has eight authorized purposes: water supply, power, flood control, water quality, recreation, navigation, fish and wildlife enhancement, and fish and wildlife mitigation.¹

The CVP is comprised of both single-purpose and multipurpose facilities that, in aggregate, serve the purposes of the project authorized by Congress. In accordance with CVP project authorization, the costs for CVP facilities are to be reimbursed by project beneficiaries. A cost allocation study is designed to identify the repayment obligations for project beneficiaries, as well as those non-reimbursable costs assigned to the Federal government.

The current comprehensive cost allocation study used for calculating repayment obligations of CVP contractors was completed in 1975. As new project facilities have been added and water and power uses have changed over time, updates and adjustments have been made to the cost allocation to determine repayment, but a holistic evaluation has not been completed since 1975. This cost allocation study was initiated based on direction from Congress in Public Law (P.L.) 99-546 and the request of water and power contractors for a final CVP cost allocation to firm up account balances and provide sufficient time for financial planning required to ensure full repayment of the CVP costs by 2030. This report provides the background and methodology for the Final Cost Allocation Study (CAS). Reclamation will apply the Final CAS results to current costs and operational conditions that are in effect at the time the annual plant-in-service and operation and maintenance (O&M) allocations are prepared.

Reclamation developed this CVP Final CAS report in consultation with stakeholders and other Federal agencies, including Western Area Power Administration (WAPA), U.S. Army Corps of Engineers (USACE) and U.S. Fish and Wildlife Service (USFWS), which participated in the study through coordination on key issues and analyses. This CVP Final CAS commenced in 2010. Throughout the process, information and updates have been shared with stakeholders through a series of over 30 meetings, workshops, and/or briefings.

Purpose and Need for Study

The purpose of the CVP cost allocation study is to develop allocation factors for the authorized purposes of the CVP. These factors will be used to determine the final repayment obligations for CVP facilities subject to the 2030 repayment. Though Reclamation has updated the allocation annually through the ratesetting process, a holistic cost allocation study has not been completed since 1975. A number of changes have occurred since 1975 that Reclamation and CVP contractors

¹ Fish and wildlife mitigation without specific cost recovery guidance is treated as a joint cost.

agree necessitate re-evaluation. Legislative and regulatory changes in the 1990s made considerable changes to the benefits and authorized purposes of the CVP. This cost allocation study allows Reclamation to consider the new CVP facilities, operational requirements, and benefits that have been authorized since 1975. The final cost allocation presented in this document meets the requirement of a final cost allocation in accordance with Reclamation policy for final cost allocations (PEC P01) and in fulfillment of requirements of Public Law 99-546.

Two Cost Allocation and Two-Period Repayment Approach

Throughout the public meetings held for development of the cost allocation study, water and power stakeholders expressed concern that historic project operations and conditions differed significantly from those expected in the future. Reclamation policy (PEC 01-02) defines the period of analysis for the cost allocation as 100 years beyond the initial date of service. To address both Reclamation policy and stakeholder concerns, Reclamation combined the two separate cost allocations, each with their own respective 100-year period of analysis. This approach addresses the concern over disparate historic and future project operating conditions.

The first period (Period 1) reflects historic conditions as represented in the 1975 CVP cost allocation update (as updated through 2013). The second period (Period 2) reflects projected operations and benefits of the CVP. The two periods are then merged by providing equal weight to each period to create the final cost allocation. The two-period approach has been implemented as a means to account for historic operations of the CVP since it was placed into service through the Period 1 allocation while also allowing for the allocation to account for current/projected project operations through the Period 2 allocation.² The primary focus of this document is the assumptions, costs, and benefits that are used in the Separable Costs-Remaining Benefit (SCRB) cost allocation process is on the Period 2 allocation. The assumptions and methodology used to develop the cost allocation factors for Period 1 are documented in the 1970 CVP Cost Allocation Report as amended, and references to the Period 1 allocation are presented for context only.

Separable Costs-Remaining Benefits Analysis and Results (Period 2)

The SCRB methodology for the cost allocation is used for the Period 2 cost allocation. The SCRB method is considered the most comprehensive and generally preferred method of allocating costs by Reclamation. The SCRB method is based on the goal of identifying and assigning all project costs that provide only one project benefit to the appropriate project purpose (separable costs), and then equitably distributing those costs that provide benefits to more than one purpose (joint costs) among authorized project purposes.

² Note that the allocation of future CVP O&M costs will be based on the Period 2 allocation; thus it will reflect prospective conditions.

Final Cost Allocation (Two-Period Merger)

The CVP plant-in-service (construction) allocation is prepared annually to reflect changes in CVP construction costs and sub-allocation processes that vary year to year. The results of the final cost allocation, which reflects the merger of the Period 1 and Period 2 allocations and sub-allocations, are presented in Table ES-1 and representative of 2013 construction costs. The proposed process for taking the final cost allocation results and applying to annual plant-in-service allocations is described in Chapter 12, *Implementation of the Final Cost Allocation*, of this report.

Table ES-1. Final Cost Allocation (Merge) – Construction (Nominal Dollars)

Type of Cost	Period 1	Period 2	Period 1 (50%)	Period 2 (50%)	Final Cost Allocation (Merge)
Authorized Purposes & Sub-Purposes					
Water Supply – Irrigation	\$1,178,115,286	\$1,068,517,722	\$589,057,643	\$534,258,861	\$1,123,316,504
Water Supply – M&I	\$106,873,582	\$142,321,083	\$53,436,791	\$71,160,542	\$124,597,333
Power – Commercial	\$674,248,511	\$609,891,724	\$337,124,256	\$304,945,862	\$642,070,118
Flood Control	\$139,282,872	\$331,281,759	\$69,641,436	\$165,640,880	\$235,282,316
Water Quality	\$5,607,545	\$89,358,743	\$2,803,773	\$44,679,372	\$47,483,145
Recreation	\$74,998,433	\$5,742,471	\$37,499,217	\$2,871,236	\$40,370,453
Navigation	\$6,423,948	\$0	\$3,211,974	\$0	\$3,211,974
Fish & Wildlife Enhancement ¹	–	–	–	–	–
Non-Reimbursable (Other)					

Type of Cost	Period 1	Period 2	Period 1 (50%)	Period 2 (50%)	Final Cost Allocation (Merge)
Federal	\$258,046,528	\$198,271,873	\$129,023,264	\$99,135,936	\$228,159,200
State	\$250,429,656	\$248,502,699	\$125,214,828	\$124,251,349	\$249,466,177
State & Local	\$4,329,037	\$4,467,386	\$2,164,519	\$2,233,693	\$4,398,212
Repayment Contracts					
Irrigation	\$361,392,079	\$361,392,079	\$180,696,040	\$180,696,040	\$361,392,079
M&I	\$227,656,572	\$227,656,572	\$113,828,286	\$113,828,286	\$227,656,572
Commercial Power	\$8,568,500	\$8,568,500	\$4,274,250	\$4,274,250	\$8,568,500
Facility List Sub-Total	\$3,295,972,549	\$3,295,972,610	\$1,647,986,276	\$1,647,986,307	\$3,295,972,584
Additional Repayment Obligations					
Repayment Obligations – USACE					
Irrigation	\$19,686,165	\$19,686,165	\$9,843,083	\$9,843,083	\$19,686,166
M&I	\$447,937	\$447,937	\$223,969	\$223,969	\$447,938
WAPA Retired Assets					
Irrigation	\$8,464,815	\$8,464,815	\$4,232,408	\$4,232,408	\$8,464,816
M&I	\$1,207,155	\$1,207,155	\$603,578	\$603,578	\$1,207,156
Commercial Power	\$35,649,679	\$35,649,679	\$17,824,840	\$17,824,840	\$35,649,680

Type of Cost	Period 1	Period 2	Period 1 (50%)	Period 2 (50%)	Final Cost Allocation (Merge)
Non-Reimbursable (Federal)	\$213,468	\$213,468	\$106,734	\$106,734	\$213,468
Non-Reimbursable (State)	\$16,115	\$16,115	\$8,058	\$8,058	\$16,116
CA-OR Transmission Project	\$20,282,786	\$20,282,786	\$10,141,393	\$10,141,393	\$20,282,786
<i>Additional Repayment Obligations Sub-Total</i>	<i>\$85,968,120</i>	<i>\$85,968,120</i>	<i>\$42,984,063</i>	<i>\$42,984,063</i>	<i>\$85,968,126</i>
Costs Not Allocated					
Authorized Deferred Use	\$56,875,000	\$56,875,000	\$28,437,500	\$28,437,500	\$56,875,000
CVPIA	\$340,872,120	\$340,872,120	\$170,436,060	\$170,436,060	\$340,872,120
Folsom SOD – Not in Repayment	\$120,512,509	\$120,512,509	\$60,256,255	\$60,256,255	\$120,512,510
<i>Costs Not Allocated Sub-Total</i>	<i>\$518,259,629</i>	<i>\$518,259,629</i>	<i>\$259,129,815</i>	<i>\$259,129,815</i>	<i>\$518,259,629</i>
Total Cost	\$3,900,200,298	\$3,900,200,359	\$1,950,100,154	\$1,950,100,185	\$3,900,200,339

1. Fish and wildlife mitigation costs are allocated to applicable categories for repayment, including non-reimbursable costs.

Repayment Obligations

The summary of estimated repayment obligations for CVP construction costs is presented in Table ES-2. These repayment obligations reflect the construction costs allocated (and sub-allocated) to reimbursable and non-reimbursable purposes in Period 1, Period 2, and the final cost allocation. The breakdown of construction costs allocated across reimbursable sub-purposes is shown Table ES-3.

Table ES-2. Summary of Repayment Obligations – Construction Costs Only (Excludes IDC and OM&R)

Category	Period 1 Value (\$)	Period 1 Percent of Total	Period 2 Value (\$)	Period 2 Percent (%)	Period 2 Change from P1	Final Cost Allocation (Merge) Value (\$)	Final Cost Allocation (Merge) Percent (%)	Final Cost Allocation (Merge) Change from P1
Irrigation	\$1,206,266,266	30.93%	\$1,096,668,702	28.12%	(\$109,597,564)	\$1,151,467,486	29.52%	(\$54,798,780)
M&I	\$108,528,674	2.78%	\$143,976,175	3.69%	\$35,447,501	\$126,252,427	3.24%	\$17,723,753
Commercial Power	\$730,180,976	18.72%	\$665,824,189	17.07%	(\$64,356,787)	\$698,002,584	17.90%	(\$32,178,392)
Repayment Contracts	\$597,617,151	15.32%	\$597,617,151	15.32%	\$0	\$597,617,152	15.32%	\$0
Non-reimbursable	\$739,347,602	18.96%	\$877,854,513	22.51%	\$138,506,911	\$808,601,061	20.73%	\$69,253,459
CVPIA	\$340,872,120	8.74%	\$340,872,120	8.74%	\$0	\$340,872,120	8.74%	\$0
Authorized Deferred Use	\$56,875,000	1.46%	\$56,875,000	1.46%	\$0	\$56,875,000	1.46%	\$0
SOD – Not in Repayment	\$120,512,509	3.09%	\$120,512,509	3.09%	\$0	\$120,512,509	3.09%	\$0
Total	\$3,900,200,298	100.00%	\$3,900,200,359	100.00%	NA	\$3,900,200,339	100.00%	NA

P1 = Period 1

SOD = Safety of Dams

Table ES-3. Reimbursable Costs Distribution – Construction Costs Only (Excludes IDC and OM&R)

Category ¹	Period 1 Value (\$)	Period 1 Percent (%)	Period 2 Value (\$)	Period 2 Percent (%)	Final Cost Allocation (Merge) Value (\$)	Final Cost Allocation (Merge) Percent (%)
Irrigation	\$1,206,266,266	58.99%	\$1,096,668,702	57.52%	\$1,151,467,486	58.28%
M&I	\$108,528,674	5.31%	\$143,976,175	7.55%	\$126,252,427	6.39%
Commercial Power	\$730,180,976	35.71%	\$665,824,189	34.92%	\$698,002,584	35.33%
Total	\$2,044,975,916	100.00%	\$1,906,469,066	100.00%	\$1,975,722,497	100.00%

1. Values presented in this table do not include repayment contracts

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Chapter 1. Introduction

This chapter provides general background on the CVP Final CAS, including an overview of public outreach and involvement.

1.1 Background & Overview

In 2010, Reclamation commenced efforts to complete a new cost allocation for the CVP that updates the costs allocated among the authorized eight purposes of the project:

- Water Supply
- Hydropower
- Flood Control
- Water Quality
- Recreation
- Navigation
- Fish and Wildlife Enhancement
- Fish and Wildlife Mitigation³ (treated as joint cost)

The final cost allocation proposed herein will be utilized for the allocation of repayment obligations for CVP facilities subject to the 2030 repayment requirement. Reclamation conducted the final CAS in consultation with CVP stakeholders and other Federal agencies, including WAPA, USACE and USFWS through coordination on key issues and analyses. Information on the public outreach process is presented in Chapter 1.4.

1.1.1 Two Cost Allocation and Two-Period Repayment Approach

Through the stakeholder engagement process, it was identified that historic project operations and conditions differed significantly from operational conditions expected in the future. Reclamation policy (PEC 01-02) defines the appropriate period of analysis for the cost allocation as 100 years beyond the initial date of service (Reclamation 2015). Combining two separate cost allocations, each

³ The Central Valley Project Improvement Act (CVPIA) added “mitigation, protection, and restoration of fish and wildlife,” hereafter referred to as “fish and wildlife mitigation,” as an authorized purpose of the CVP. Fish and wildlife enhancement can share in joint costs if all requirements of P.L. 89-72 (Federal Water Project Recreation Act) are met, while fish and wildlife mitigation is not a purpose that shares joint costs. Any mitigation not specifically authorized under CVPIA is considered a joint cost that is shared among all other project purposes that can share in joint costs. The repayment of fish and wildlife mitigation costs is addressed in Section 5.11.1.

with a 100-year period of analysis, allows the CAS to include current/future operational conditions in accordance with Reclamation policy.

The first period (Period 1) reflects historic conditions as utilized in the 1975 CVP cost allocation update (as updated through 2013). The second period (Period 2) reflects projected operations and benefits of the CVP⁴. The final cost allocation represents a merger of the two periods (see Chapter 11, *Final Cost Allocation (Two Period Merger)*).

This document focuses on the assumptions, costs, and benefits used in the cost allocation process for period 2. The assumptions and methodology used to develop the cost allocation factors for Period 1 are documented separately, and references to the Period 1 allocation are presented for context only. More detailed information on the two-cost allocation and two-period repayment approach is presented in Chapter 5.1.

1.1.2 Costs to Be Allocated

The costs allocated in the final CAS are the plant-in-service costs for all CVP facilities, which include facilities owned and operated by Reclamation as well as power facilities owned and operated by WAPA that are considered an integral part of the CVP. Reclamation performs the cost allocation for WAPA's CVP facilities; however, WAPA is responsible for recovering costs from its power customers. Chapter 3, *Project Facilities and Costs* provides details on project facilities and costs subject to the final cost allocation. Costs with prescribed allocations are treated as direct assigned costs (see Section 3.3).

1.1.3 Cost Allocation Versus Repayment

The cost allocation process is used to allocate project costs among its authorized purposes. Costs allocated across project purposes are identified as reimbursable and non-reimbursable costs. Reimbursable costs are then assigned to water and power customers for repayment. Non-reimbursable costs are not subject to repayment.

1.2 Purpose and Need for Study

The purpose of the Final CAS is to develop allocation factors which determine the final repayment obligations for each of the CVP customer classes. The allocation factors are used to determine repayment obligations for construction costs of project facilities with repayment targets of 2030. Reclamation policy, Federal legislation⁵, and customer requests require the completion of the final CAS for the CVP.

The final CAS considers changes to the CVP's authorized purposes and operations resulting from changes to legislation and evolving regulatory conditions. The CVP has continually added new

⁴ Period 2 analyses rely on recent information from the Sacramento and San Joaquin Rivers Basin Study (SSJRBS) to assess the potential differences in water supply availability that might occur between a no-climate-change scenario and various other future climate change projections (see Chapter 6.7 *Hydrology Sensitivity Analysis*).

⁵ Public Law 99-546 directed Reclamation to conduct and implement a final cost allocation study of the Central Valley Project.

features based on a financially and operationally integrated project. Re-operation of the CVP with the additions of new features complicates a clearly defined point of substantial completion. Congress and contractors have identified those facilities with repayment in 2030 as what constitutes the basis for the final allocation for the CVP.

1.3 Approval of Cost Allocations

Reclamation policy PEC P01 (Final Cost Allocations) (Reclamation 1995) indicates the Commissioner is authorized to approve the CVP Final CAS.

1.4 Public Outreach & Involvement

This CAS was initiated in 2010, and since that time, project information has been shared with stakeholders through a series of meetings, workshops, briefings, and the project website. An initial public meeting was held on October 1, 2010, to commence the project. Since that time, Reclamation has held over 30 additional meetings to solicit input and present information regarding cost allocation methodology and preliminary results and findings. Those stakeholders who commented on the Draft CVP Final CAS during the public review process (January 2019 – April 2019) were invited to a series of four listening sessions to provide Reclamation with additional context to comments and help prioritize efforts for completion of the study.

Throughout the process, Reclamation received over 700 written comments on the study, and stakeholders have provided input via direct contact with Reclamation staff. Comments were received from over 40 stakeholders including Federal agencies, CVP customers, regional and local governments and agencies, and special interest groups. Efforts were taken to review all stakeholder comments as they were received so that they could be incorporated into the development of the CAS, including the supporting technical analysis. All comments received on the Draft CVP Final CAS have been considered in the CVP Final CAS.

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Chapter 2. Overview of the Central Valley Project

This chapter provides an overview of the CVP, including project operations and related legislation and agreements that are integral to the project. Information on CVP facilities included in the CAS is presented in Chapter 3, *Project Facilities and Costs*.

2.1 Project Overview

The CVP is the largest surface water storage and delivery system in California and the largest irrigation water supply project constructed and operated by Reclamation. Facilities and service areas of the CVP cover a large geographic area and include 35 of the State's 58 counties. The CVP includes 20 reservoirs, with a combined storage capacity of nearly 12 million acre-feet; 8 power plants and 2 pumping-generating plants, with a combined capacity of approximately 2 million kilowatts; 2 pumping plants; and approximately 500 miles of major canals and aqueducts. The CVP supplies water to more than 200 long-term water contractors in the Central Valley, the San Francisco Bay Area, and the Santa Clara Valley.

Historically, approximately 90 percent of the water delivered by the CVP has been for agricultural uses. At present, increasing quantities of water are being provided to municipal customers, including the cities of Redding, Sacramento, Folsom, Tracy, and Fresno; most of Santa Clara County; and the northeastern portion of Contra Costa County.

The CVP has eight authorized purposes. Congress authorized the CVP to serve water supply, power, flood control, water quality, recreation, navigation, fish and wildlife enhancement, and fish and wildlife mitigation, with portions of the costs for CVP facilities to be reimbursed by the water and power users. Additional information on the authorized purposes of the CVP is presented in Chapter 5.7.

2.2 Project Area

The CVP is authorized as a single financially and operationally integrated multipurpose water supply project, providing water storage both north and south of the Sacramento-San Joaquin River/San Francisco Bay Delta (Delta). As shown in Figure 2-1, major CVP dams and reservoirs are located on the Trinity, Sacramento, American, Stanislaus, and San Joaquin Rivers. CVP water supplies north of the Delta are controlled by Shasta and Folsom Dams on the Sacramento and American Rivers, respectively. Water from the Trinity River is stored, re-regulated, and diverted through a system of dams, reservoirs, tunnels, and power plants to the Sacramento River to supplement the supply developed by Shasta Reservoir.



Figure 2-1. CVP Project Area

2.3 Project Development and Authorization

The CVP resulted from long-term interaction among State, Federal, and private parties sharing a common interest in developing California's water resources. The CVP was authorized through a series of legislative acts, beginning with the Rivers and Harbors Act of 1935, which authorized construction of initial features on the Sacramento and San Joaquin Rivers and in the Delta by the USACE. The River and Harbors Act of August 26, 1937, reauthorized the CVP for construction under provisions of Federal reclamation laws by the Secretary of the Interior.

Construction of the first major CVP facility, Shasta Dam, began in 1938. Successive congressional acts authorized additional facilities based on geographical proximity and purposes served. The final dam and reservoir, New Melones, was officially transferred to Reclamation from the USACE by P.L. 87-874 in November 1979.

2.4 Project Facilities & Operations

Extending 400 miles through central California, the CVP is a complex, multipurpose network of dams, reservoirs, canals, hydroelectric power plants, and other facilities. The CVP provides flood protection for the Central Valley and supplies irrigation water throughout the valley thereby supporting California's agricultural economy. It also supplies municipal and industrial water to major urban centers in the greater Sacramento and San Francisco Bay areas, as well as producing electrical power and offering various recreational opportunities. In addition, the project provides water to restore and protect fish and wildlife, and to enhance water quality.

Long-term contracts for CVP water, in total, exceed 9 million acre-feet per year. The CVP has long-term agreements to supply water to more than 200 contractors in 29 of California's 58 counties. Deliveries by the CVP include providing an annual average of 5 million acre-feet of water for farms; 600,000 acre-feet of water for municipal and industrial (M&I) uses (enough water to supply about 2.5 million people for a year); and water for wildlife refuges and maintaining water quality in the Sacramento-San Joaquin Delta. The CVP dedicates 800,000 acre-feet per year to fish and wildlife and their habitat and 410,000 acre-feet to State and Federal wildlife refuges and wetlands, pursuant to the Central Valley Project Improvement Act (CVPIA).

Overall, CVP operations are coordinated to obtain maximum yields and to deliver water into the main river channels and canals of the project in the most efficient and economical manner. Project operations are implemented in conjunction with State Water Project (SWP) operations based on the Coordinated Operations Agreement (COA), the Bay-Delta Accord, and other agreements. Irrigation and M&I water is delivered to project contractors from the main canals in accordance with long-term contracts negotiated with irrigation districts and other local organizations. Distribution of water from the main canals to the individual users is the responsibility of the local districts, which use distribution systems comprised of lateral canals and pipelines to convey water to individual farms and municipalities.

2.5 Key CVP Agreements and Legislation

There are a wide range of laws and agreements that affect CVP and SWP operations. Throughout the life of the CVP, the allocation of its costs has been affected directly or indirectly by Federal legislation, continuing up to the recent specific allocation of costs of certain actions and facilities mandated by the CVPIA. This has meant that different rules may apply to different groups of CVP facilities or facilities built during different periods of time. The current CVP cost allocation study must be understood in the context of these changing mandates and application of different procedures to different sets of CVP facilities. It is also important to note that the existing CVP water

ratesetting process, dependent as it is on the allocation of CVP costs, has relied on this amalgamation of practices. The discussion below highlights several key provisions that play a critical role in CVP operations that in turn affect project costs and benefits and ultimately the allocation of project costs.

2.5.1 Coordinated Operations Agreement

In 1986, Reclamation and the State entered into a COA that described how the CVP and the SWP are to be operated in a coordinated manner to jointly meet Delta salinity control and water quality standards as defined by the State Water Resources Control Board (SWRCB). The COA included many provisions concerning the joint operations of CVP and SWP, including methods to ensure that water demands in specific areas north of the Delta and in the Delta are met prior to exporting water to areas south of the Delta. In addition, COA provisions defined how much water the CVP and the SWP can export when the Delta conditions allow exports.

Title I of P.L. 99-546 directed the Secretary to operate the CVP in conformity with State water quality standards for the Delta. The act specified that costs associated with providing CVP water supplies for salinity control and complying with State water quality standards be allocated among project purposes and reimbursed in accordance with existing Reclamation law and policy.

2.5.2 State Water Resources Control Board Water Quality Requirements

The CVP and SWP are also operated pursuant to SWRCB decisions and orders related to water rights permits for the CVP and SWP. The SWRCB is responsible for setting water quality standards governing the operations of the CVP and SWP for the San Francisco Bay/Sacramento-San Joaquin Delta and Estuary. Under P.L. 99-546, both projects were authorized to operate in close coordination pursuant to the COA, which also required the CVP and SWP to share responsibility to meet the SWRCB Water Rights Decision 1485 (D-1485) water quality standards. In 1999, the SWRCB adopted Water Rights Decision 1641 (D-1641), amending certain water quality terms and conditions. Meeting D-1641 water quality standards requires exceeding the Delta outflow standards set by D-1485.

2.5.3 Central Valley Project Improvement Act

On October 30, 1992, the President signed into law the Reclamation Projects Authorization and Adjustment Act of 1992 (P.L. 102-575) that included Title 34, the CVPIA. The CVPIA amended the Act of August 26, 1937, the basic authorizing legislation for the CVP, to include fish and wildlife protection, restoration, and mitigation as project purposes having equal priority with irrigation and domestic uses, and fish and wildlife enhancement as a project purpose equal to power generation.

The CVPIA identified a number of specific measures to meet these new purposes. It also directed the Secretary of the Interior to operate the CVP consistent with these purposes, to meet the Federal trust responsibilities to protect the fishery resources of affected federally recognized Indian tribes, to meet all requirements of Federal and State law, and to achieve a reasonable balance among competing demands for CVP water.

Many of the provisions included in the CVPIA identified specific measures intended to improve fishery conditions in Central Valley rivers and the Delta. In many cases, the provisions also provided specific cost-sharing and allocation criteria. As a result, the allocation of costs for CVPIA-mandated actions was directed by Congress, with Congress specifying the percentage of costs to be allocated to water and power users, the Federal government, and the State. Relevant examples are the actions specified in Section 3406(b)(4)(23) and refuge water supplies addressed in Section 3406(d).

The CVPIA also contains requirements that could affect CVP water availability and use without directing that a new cost allocation be undertaken or providing a cost allocation formula. Section 3406(b)(2) of the CVPIA directed the Secretary to dedicate and manage 800,000 acre-feet of CVP yield for the primary purpose of implementing the fish, wildlife, and restoration purposes of the act, to assist the State in its efforts to protect Bay/Delta waters, and to help meet other legally imposed obligations on the CVP, including but not limited to additional obligations under the Federal Endangered Species Act (ESA). The dedication of this water reduced the capability of the CVP to deliver contracted amounts of water to M&I and irrigation contractors. Congress neither directed that a new cost allocation study be undertaken as a result of likely reductions in water contract deliveries nor provided a cost allocation formula related to the dedicated water. Additional information on the treatment of CVPIA costs in the final CAS is presented in Chapter 5.11.

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Chapter 3. Project Facilities and Costs

This chapter presents the project facilities and associated costs included in the final CAS. Most of the facilities and costs are subject to the SCRB cost allocation methodology utilized in this study (described in detail in Chapter 4, Cost Allocation Methodology). Facility costs that are not included in the SCRB analysis but remain part of the overall CAS include direct assigned costs, repayment contracts, additional repayment obligations, and costs not allocated. These costs are accounted for in the final CAS summary tables presented in Chapter 10, *Cost Allocation Results (Period 2)* and Chapter 11, *Final Cost Allocation (Two Period Merger)*. Unless noted otherwise, the costs referenced in this chapter represent CVP plant-in-service (construction) costs only. Chapter 9, *Cost Estimates* outlines cost estimates for interest during construction (IDC) and operation, maintenance, and replacement (OM&R) necessary for performing the SCRB analysis.

3.1 Project Facilities (CAS Facility List)

The CAS covers most CVP facilities that are considered plant-in-service based on Schedule 1 of the 2013 CVP Financial Statement (see the CAS Facility List Attachment at the end of this report). Facilities with prescribed repayment obligations are included in the CAS as direct assigned costs. Facilities that support project benefits and do not have prescribed repayment obligations are allocated through the SCRB analysis. The cost of CVP facilities owned and operated by WAPA and identified as financially and operationally integrated with the CVP are included in the CAS.

The CAS allocates costs of project facilities in the following CVP divisions/units:

- Shasta and Trinity River Divisions
- Friant Division
- Sacramento River Division
- American River Division
- Delta Division
- San Felipe Division
- West San Joaquin Division, San Luis Unit
- Stanislaus (East Side) Division

3.2 Adjustments to the CVP Financial Statement

The CAS allocates plant-in-service costs shown in Schedule No. 1 of the 2013 CVP Financial Statement, which represent the costs as of September 30, 2013 (Reclamation 2013a). Several modifications to the 2013 Financial Statements are necessary to exclude costs that are not allocated through the CAS.

Facilities Not Considered Plant-In-Service: Schedule No. 1 of the CVP Financial Statement include costs associated with construction in abeyance, general construction, and O&M construction. These are costs expended, but not yet placed into plant-in-service. Costs for facilities not yet placed in service are not allocated for repayment because they do not yet provide benefits to the project.

Land and Land Rights: Land and land rights (LLR) costs presented in Schedule No. 1 are the value of the land on which project facilities are constructed. LLR costs for facilities that are plant-in-service are included in the construction costs of each appurtenant facility and are allocated in the CAS. If a facility has not yet been placed in plant-in-service, the associated LLR costs for the facility are not allocated in the CAS.

Reimbursable Interest During Construction: IDC is an allowance for earnings foregone on funds used to construct the facility. IDC is included in the CAS for facilities placed into plant-in-service that are subject to the SCRB analysis. The reimbursable IDC costs for facilities in plant-in-service included in Schedule No. 1 have been removed before the SCRB analysis was performed because the SCRB relies on an estimate of total IDC for the entire facility cost.

Depreciation Expense: All depreciation expenses are excluded from the CAS study because the allocation of construction costs and repayment requirements apply to original cost, not costs reduced through depreciation.

Other Costs Excluded: Other Schedule No. 1 values excluded from the CAS are associated with equipment, information technology software, and amortization.

Transferred Title Facilities: The construction cost of Coleman National Fish Hatchery is removed from the plant-in-service value for Shasta Dam and Reservoir shown on Schedule No. 1 of the 2013 Financial Statement. Title to the hatchery was transferred from Reclamation to USFWS so the construction cost of the hatchery is excluded from the CAS.

Operation, Maintenance, and Replacement (OM&R) Costs: There are costs referred to as extraordinary operations and maintenance (EOM) that are included as plant-in-service in Schedule No. 1 but are repaid to Reclamation as annual O&M costs. EOM costs are excluded from the SCRB analysis to avoid double counting with estimated OM&R costs presented in Chapter 9, *Cost Estimates*.

Financial System Reconciliation: In 2013, Reclamation adopted a new financial reporting system known as the Financial and Business Management System (FBMS) and discontinued use of the Federal Financial System (FFS). In the process, the FBMS system reclassified some assets formerly categorized as plant-in-service to buildings. For the CAS, the cost of these buildings is included as part of the plant-in-service costs being allocated.

3.3 Direct Assigned Costs

CVP facility repayment obligations directly defined by legislation, agreement, or contract are not included in the SCRB analysis. Facility costs (or portions thereof) that are directly assigned are added to the applicable repayment category after the SCRB process is complete. Adding together the costs allocated by the SCRB process and the direct assigned costs provides the total CVP cost allocated, which represents a significant portion of the total repayment obligation of CVP contractors. In total, direct assigned costs, including IDC, accounted for in the CAS are \$502,712,342.⁶

The following facility or program costs that are designated as direct assigned costs include:

- **State Share of San Luis Unit Construction** (\$248,310,255)
 - The State's share of costs of construction of the San Luis Unit is removed from the allocation process because only Federal costs are being allocated. P.L. 86-488 authorized construction of the San Luis Unit of the CVP and provided for the sharing of costs with the State of California.
- **Archaeological, Cultural, and Historical** (\$4,245,665)
 - The costs associated with archaeological, cultural, and historic investigations and documentation are directly assigned as Federal non-reimbursable. P.L. 93-291 provides that up to 1 percent of project construction costs can be spent on archaeological, cultural, and historical investigations and cataloging.
- **Fish and Wildlife, Nimbus Dam** (\$40,000)
 - Prior to completion of the fish hatchery, additional expenses were incurred during construction of Nimbus Dam to facilitate fish passage. The cost over-run is directly assigned as non-reimbursable fish and wildlife costs.
- **Highway Improvement** (\$14,663,318)
 - Highway improvements at New Melones Dam and San Luis Dam are directly assigned to Federal non-reimbursable. P.L. 87-874 provides that the cost of replacing highways with an improved version as part of a project is non-reimbursable.
- **Safety, Security, and Law Enforcement** (\$25,476,432)
 - Safety, Security, and Law Enforcement activities at the Folsom Unit, San Felipe Division, San Luis Unit, and the Shasta Unit are directly assigned as Federal non-reimbursable pursuant to P.L. 110-229.

⁶ This value includes IDC that is direct assigned. Direct assigned IDC costs are not reflected in the CAS results presented in Chapters 10 and 11 or the CAS Facility List Attachment, which focus on CVP construction costs.

- **Kesterson Reservoir Clean-up Program** (\$6,800,000)
 - The costs of clean-up activities at Kesterson Reservoir resulting from selenium contamination from San Luis Drain is directly assigned as Federal non-reimbursable. Language in Reclamation’s annual appropriations bill provides that \$6,800,000 of the cost to clean up is considered Federal non-reimbursable expense.
- **Capitalized Interest During Construction:** (\$31,112,020)
 - **New Melones Unit:** IDC costs associated with the New Melones Unit are directly assigned as Federal non-reimbursable. When New Melones Dam was transferred to Reclamation by the USACE, \$27,012,918 was included as capitalized IDC allocated to irrigation. Reclamation does not charge IDC on irrigation costs so the IDC was classified as non-reimbursable.
 - **San Felipe Division:** IDC costs associated with the San Felipe Division are directly assigned as Federal non-reimbursable. \$4,099,102 of IDC calculated against the M&I portion of the construction cost of the San Felipe Division is classified as Federal non-reimbursable pursuant to an agreement with division contractors.
- **San Felipe Division Non-Reimbursable Construction Costs** (\$32,678,447)
 - Ten percent of construction cost of the San Felipe Division is classified as Federal non-reimbursable pursuant to an agreement with division contractors. The non-reimbursable portion of construction costs is based on anticipated development of recreation and fish and wildlife facilities. Accordingly, these costs are assigned and split equally among non-reimbursable recreation and fish and wildlife purposes.
- **American River Pumping Station** (\$3,589,560)
 - The cost of restoring the American River Pumping Station for the Placer County Water Agency is a Federal non-reimbursable cost pursuant to P.L. 110-229.
- **Safety of Dams (SOD) Program** (\$31,810,865)⁷
 - SOD costs are associated with the following facilities: Folsom Dam and Reservoir (\$26,385,404),⁸ Little Panoche Creek Detention Dam (\$6,536), Los Banos Creek Detention Dam and Reservoir (\$10,784), and O’Neill Dam Forebay and Waterway (\$5,408,141). Eighty-five percent of SOD costs are Federal non-reimbursable and 15 percent are reimbursable pursuant to P.L. 98-404.
- **Fish and Wildlife Activities** (\$103,829,746)
 - Certain fish and wildlife facilities authorized separately from CVPIA have been directly assigned as reimbursable or non-reimbursable through legislation or agreement (\$103,829,746).
 - Fish and wildlife costs that are not authorized under CVPIA and not direct assigned are considered mitigation and are treated as joint costs allocated across all project purposes

⁷ This value includes both reimbursable and non-reimbursable SOD costs.

⁸ This value excludes Folsom Dam SOD costs that are not in repayment (refer to Section 3.6).

by the SCRB process (\$28,495,676). Refer to Section 5.11, *Mitigation Costs*, and the CAS Facility List Attachment for additional details.

- **Recreation Cost Sharing (\$156,034)**
 - Reclamation maintains cost sharing agreements on two recreation facilities in the CVP – Lake Woollomes Recreation Facilities and San Justo Reservoir Recreation Facilities. The cost sharing agreements for these two facilities divide the obligation evenly between Federal non-reimbursable (as part of the recreation purpose) and State/local non-reimbursable. Accordingly, the cost of Lake Woollomes recreation facilities (\$54,500) is allocated 50 percent to Federal non-reimbursable and 50 percent is direct assigned to local/State non-reimbursable pursuant to P.L. 89-72, Sec. 7(a). The cost of San Justo Reservoir recreation facilities (\$257,568) is allocated 50 percent to Federal non-reimbursable and 50 percent is direct assigned to local/State non-reimbursable per Cooperative Agreement No. 4-FC-01430.

3.4 Defined Repayment Obligations

Defined repayment obligations of the CVP include repayment contracts between contractors and Reclamation and WAPA. These costs are excluded from the SCRB analysis.

- **Reclamation Distribution System Repayment Contracts (\$624,827,547)**

Water distribution system costs subject to Reclamation repayment contracts are assigned directly to the applicable contractors, rather than through the CAS process. The costs of distribution systems that are not owned or financed by Reclamation are not within the scope of the CAS.

- **Repayment Contracts, WAPA (\$8,980,301)**

Similar to repayments contracts for Reclamation facilities, WAPA has incurred costs that are directly repayable by a particular entity pursuant to contract and do not affect market power rates. The contract is with Lawrence Livermore Labs (Contract 89-SA-90001) in the amount of \$8,980,301.

3.5 Additional Repayment Obligations

The final CAS accounts for costs that are not subject to the cost allocation but are included either as part of the water ratesetting process or the repayment obligation of commercial power. Accordingly, these costs are accounted for in Chapter 11, *Final Cost Allocation (Two Period Merger)*, in an effort to provide a comprehensive overview of existing and future repayment obligations of project beneficiaries.

The following represents the additional costs included in the CVP water ratesetting process, and in the calculation of the repayment obligations for commercial power interests administered by WAPA.

- **Repayment Obligations Assumed (USACE).** Reclamation is responsible for repayment of costs for several projects constructed by USACE, including Hidden Reservoir on the Fresno River, Buchanan Reservoir on the Chowchilla River, and the Black Butte project on Stony Creek. Hidden Reservoir and Buchanan Reservoir were authorized by the Flood Control Act of 1962, and the repayment obligations have been integrated into Reclamation's ratesetting process where costs are allocated to the water supply purpose and distributed in total to the irrigation sub-purpose. The Black Butte project was authorized by the Flood Control Act of 1944, and subsequently P.L. 91-502 provided that the project would be financially integrated with the CVP. The water supply costs of the Black Butte project are sub-allocated to the irrigation and M&I sub-purposes based on relative water deliveries. Title (ownership) of all three projects remains with USACE. The total value of repayment obligations assumed from USACE for the three projects is \$20,134,102.
- **WAPA Retired Assets.** Repayment obligations for commercial power include WAPA retired assets. The costs of retired assets are not included in the SCRB analysis because when a unit is replaced the cost is "removed" from Schedule 1 in WAPA's Results of Operation and the new cost is included instead. Therefore, to include both the retired asset cost and replacement cost in the SCRB analysis would count the value of the capital twice. However, from a cost recovery perspective, WAPA needs to recover both the original cost and the replacement cost. Therefore, the value of retired assets is included for cost recovery purposes. The total value of WAPA retired assets is \$45,551,232.
- **California-Oregon Transmission Project (WAPA).** The SCRB analysis excludes the cost of the California-Oregon Transmission Project (COTP) because it is not directly connected to any CVP hydropower generation resources, nor used to move CVP hydropower to CVP preference power customers. However, the cost of the COTP (\$22,135,133) represents a repayment obligation of commercial power.

3.6 Costs Not Allocated

The costs of facilities that have not yet entered repayment, facilities that have authorized deferred use, and CVPIA facilities are not allocated in the CAS, but a portion of these costs represent a future obligation of CVP water and power contractors. The results of the CAS will be used to allocate these costs at some future point in time where applicable.

- **Facilities Not Yet in Repayment:**

Folsom Safety of Dams: The Folsom Dam Safety and Flood Damage Reduction Joint Federal Project is a collaborative effort by Reclamation and USACE to address the dam safety hydrologic risk at the Folsom Facility (including Mormon Island Auxiliary Dam and several dikes) and improve flood protection. The Folsom project is included in plant-in-service in Schedule No. 1, but the costs are not allocated because the project has not yet entered repayment. The project took place over multiple years and work was completed in phases. As phases are completed, they are transferred from work in progress to plant-in-service. An agreement was reached between Reclamation and CVP

water contractors that the reimbursable 15 percent of project construction costs would not be placed into repayment status until 2021. The total value of Folsom SOD costs not in repayment is \$120,755,310⁹. The reimbursable costs will be allocated in accordance with the final cost allocation when it is completed, as directed by P.L. 99-546.

Repayment will begin the year following substantial completion of construction of each SOD modification and be completed within 50 years as provided by the SOD Act. Note that these costs are not reflected in the CAS Facility List Attachment.

- **Authorized Deferred Use:**
 - **Folsom South Canal and Tehama-Colusa Canal:** P.L. 89-161 and P.L. 90-65 authorized construction of extra conveyance capacity in the Folsom South Canal and Tehama-Colusa Canal, respectively, to provide for an expanded service area which could receive project water, if necessary. If the additional irrigation service materializes, the cost of the additional capacity – \$2,425,000 for Folsom South Canal and \$54,450,000 for Tehama-Colusa Canal – is to be repaid by project beneficiaries in accordance with applicable cost allocation procedures. If not, the authorized deferred use costs would be repaid from revenues of the CVP. Specific procedures consistent with existing law and Reclamation policy will be developed for the repayment of authorized deferred use costs prior to 2030. In the interim, the construction costs of the additional capacity are deferred and not being recovered through water rates.
- **CVPIA Facilities:** The costs of CVPIA facilities are not allocated through the CAS. The repayment obligations for CVPIA facility costs are directly assigned to reimbursable and non-reimbursable obligations by statute. The sub-allocation of reimbursable costs between Irrigation, M&I, and commercial power users will be determined through a separate process based on the results of the CAS.

⁹ This value represents costs in the 2013 CVP financial statements. The estimated total Folsom Facility SOD modification cost is \$507,000,000, of which 15 percent (\$76,050,000) is reimbursable.

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Chapter 4. Cost Allocation Methodology

This chapter discusses cost allocation principles and presents the process for implementing the SCRB methodology. Chapter 10 of this report, *Cost Allocation Results (Period 2)*, presents the application of the SCRB process for the CAS, including the resulting allocation of CVP costs for the Period 2 allocation.

4.1 Cost Allocation Background and Objectives

Early efforts in the field of water resources development consisted of simple, single-purpose projects, but the trend soon shifted toward increasingly complex, multipurpose projects because one large project is typically a more efficient means of providing benefits across a wide geographic area and range than constructing multiple single-purpose projects. As a result, techniques have been developed for the distribution of the costs of facilities serving more than one project purpose.

Cost allocation is concerned with the distribution or assignment of the total costs of a multipurpose project among its authorized purposes according to the principles of economic efficiency and equity. Once costs are initially allocated to the appropriate purpose, they are assigned to project beneficiaries as reimbursable costs and to the appropriate Federal or State governments as non-reimbursable costs. For the CVP CAS, reimbursable costs are the costs that are repaid to the government through some form of upfront cost sharing, repayment (including designations through public laws), or other financial agreements. Specific legislation and Reclamation policy establish the framework for designating costs as reimbursable, non-reimbursable, or partially reimbursable for a given project.

Generally, cost allocations are first performed during project planning (before construction begins) to give beneficiaries an estimate of their repayment responsibility and to determine whether the project is financially feasible. Interim cost allocations are needed for projects with any substantive changes (additions, legislation, and other factors), including construction of facilities over a longer period of time placed into service in stages. When construction of a project is determined to be substantially complete, a final cost allocation is required for the purpose of repayment. At that point, most post-authorization planning, design, construction, and IDC costs are known and OM&R costs are more clearly defined.

The CVP is a complex multipurpose project composed of both single-purpose and multipurpose facilities. The objective of the CVP CAS is to identify responsibilities for repayment of reimbursable costs by distributing the costs of multipurpose project facilities among the authorized purposes served by the CVP. Costs of single-purpose facilities, such as canals to provide M&I water and irrigation water, are directly assigned to the purposes they serve. Costs of multipurpose facilities, such as dams and reservoirs that are designed to serve more than one authorized purpose, are allocated to the appropriate authorized purposes through the SCRB allocation technique.

4.2 Separable Costs-Remaining Benefits Methodology

The SCRB method for allocating costs is Reclamation’s preferred approach for allocating costs amongst multipurpose projects. Reclamation has determined the SCRB methodology to be sufficiently comprehensive, particularly for projects where separable costs greatly exceed specific costs for any or all purposes.¹⁰

The SCRB method is based on the goal of identifying and allocating all project costs to authorized purposes of the project. First, the SCRB approach looks to allocate the separable costs, which are the costs incurred that only support one authorized purpose. Once all separable costs have been defined, the SCRB approach allocates the costs that remain, which are referred to as joint costs. Joint costs are the remaining facility costs that serve multiple authorized purposes.

The SCRB process distributes joint costs that provide benefits to more than one purpose among all authorized purposes served by that facility. Joint costs are distributed among the appropriate authorized purposes proportional to the benefits received by each authorized purpose from the facility. Benefits, as outlined in Reclamation’s Directives and Standards for Project Cost Allocations (PEC 01-02) and pursuant to the Federal Principles and Guidelines (P&Gs) (WRC 1983), are measured from a national perspective as opposed to a localized increase or improvement to society.¹¹

4.2.1 Steps in the SCRB Process

The 9 steps in performing a SCRB cost allocation for a multipurpose project are listed below.

Step 1: Determine total project costs to be allocated.

Step 2: Estimate benefits produced by each authorized purpose.

Step 3: Estimate the single-purpose alternative (SPA) cost for each authorized purpose.

Step 4: Determine the Justifiable Expenditure for each authorized purpose.

Step 5: Estimate Separable Costs

- a. Estimate the Omitted Purpose Project Cost for each authorized purpose.
- b. Estimate the Separable Costs for each authorized purpose.

Step 6: Determine the Remaining Justifiable Expenditure for each purpose.

Step 7: Determine the Joint Cost Factors for each authorized purpose.

¹⁰ The Reclamation report, “Central Valley Project Cost Allocation Study,” May 2001, closely examined various cost allocation methods and at that time recommended that the existing method would remain in place; the 1975 allocation (with interim updates) was conducted using the SCRB method.

¹¹ Although the 1983 P&Gs have been superseded by the current Principles, Requirements, and Guidelines (PR&Gs), the requirements regarding Reclamation and its approach for cost allocations remain unchanged.

Step 8: Allocate Joint Costs

- a. Calculate Total Joint Costs to be allocated among all project purposes.
- b. Allocate joint costs between each authorized purpose.

Step 9: Calculate total costs allocated to each authorized purpose.

Step 1: Determine total project costs to be allocated. Total plant-in-service project costs are gathered or estimated across all cost categories and then converted to a common price level¹² for consistency and comparative purposes.¹³ Total costs are the sum of construction (includes planning, design, and construction), IDC, and the capitalized value of annual OM&R costs.

Step 2: Estimate benefits produced by each authorized project. Benefits represent the increase in the value of the national output of goods and services associated with each purpose derived from the provision of project water. Benefits are estimated annually across the entire period of analysis. Annual benefits for each purpose may be estimated either as an average or individually for each year. Average annual benefits are based on historical or estimated future hydrology by water year type. Applying benefits by water year type to associated water year probabilities results in an expected average annual value. Like annual OM&R costs, annual benefits are assumed to occur each year of the period of analysis, thereby requiring discounting into a present value using a predetermined interest rate.

Step 3: Estimate the SPA Cost for each authorized purpose. The SPA Cost for each purpose reflects the costs of building and operating a theoretical single-purpose Federal project that would provide the same level of benefits, by purpose, as the multipurpose project. The SPA cost includes construction, IDC, and OM&R costs. A SPA may be located at the multipurpose project site, or at other sites, and several SPAs for different purposes may occupy the same site. Although a SPA may be a different size or an entirely different physical plan, it must be capable of producing the same level of benefits for any given purpose. Because each SPA is designed to support a single purpose only, the size of the SPA may be scaled down from the multipurpose project.

Step 4: Determine the Justifiable Expenditure for each authorized purpose. Justifiable Expenditure is the maximum amount of costs to be allocated to an authorized purpose. Justifiable Expenditure is determined by the lesser of the benefits produced by the authorized purpose or the SPA costs. Justifiable Expenditure is used to allocate separable costs, because it is assumed that a given purpose should not be assigned more costs than either 1) the value of the benefits the project generates for that purpose or 2) the costs of building a project exclusively for that purpose.

Step 5a: Estimate the Omitted Purpose Project Cost for each authorized purpose. Estimating the cost of the multipurpose project with each authorized purpose omitted allows for an estimate of the incremental cost of including each authorized purpose in the multipurpose project. The intent is to identify those costs that are attributable to a single purpose (separable costs) and those that

¹² The time value of money suggests that a dollar obtained today would be more valuable than a dollar obtained a number of years from now because today's dollar could be invested and earn interest. The foregone interest reflects the opportunity cost associated with the future year dollar. For this reason, cost and benefit dollar values obtained at various points in the future must be discounted (decreased) to a common year present dollar value.

¹³ Plant-in-service is the date the project or facility was effectively placed into service.

cannot be attributed to a single project purpose (joint costs). The total cost of the multipurpose project is estimated for the project including all authorized purposes, then a series of estimates of the same multipurpose project with each authorized purpose omitted (omitted purpose projects) is made. Each omitted purpose project cost estimate is created by designing a project with the same benefits for all authorized purposes of the multipurpose project other than the purpose being omitted. The benefits for the omitted purpose are assumed zero.

Step 5b: Estimate the Separable Costs for each authorized purpose. Separable costs for each purpose equal the difference between the total costs of the multipurpose project (Step 1) and the estimated hypothetical total costs of the multipurpose project with the purpose removed (Step 5a). Separable costs for each authorized purpose include the costs of single-purpose facilities (i.e., specific costs) plus a portion of joint costs directly attributed to that purpose, referred to as separable joint costs.¹⁴ Separable costs constitute the minimum costs that can be assigned to any given purpose.

Step 6: Determine the Remaining Justifiable Expenditure for each purpose. The remaining justifiable expenditure for each purpose equals the difference between the justifiable expenditure estimated in Step 4 and the separable cost estimated in Step 5b. Remaining justifiable expenditure provides the basis for allocating the joint costs.

Step 7: Determine the Joint Cost Factors for each authorized purpose. The Joint Cost factor for each authorized purpose is calculated by dividing the remaining justifiable expenditures for each purpose by the total remaining justifiable expenditure.

Step 8a: Calculate the Total Joint Costs to be allocated among all project purposes. Total Joint Costs is the difference between the sum of the Separable Costs for all authorized purposes (developed in Step 5b) and the Total Project Costs (developed in Step 1). Joint Costs are the costs of the multipurpose project that are not assignable through the estimation of Separable Costs.

Step 8b: Allocate joint costs between each authorized purpose. The Joint Cost Factors calculated in Step 7 are used to distribute the total remaining joint costs among the authorized purposes of the project. The Joint Cost Factor for each authorized purpose is multiplied by the Total Joint Cost to calculate the joint cost allocated to each purpose.

Step 9: Calculate total costs allocated to each authorized purpose. Add the Separable Cost and the Joint Cost for each project purpose to get the total cost allocated to each authorized purpose. The sum of the costs allocated to each purpose equals the total project cost calculated in Step 1.

4.3 Sub-Allocation Process

Water and Power are two CVP authorized purposes which include multiple sub-purposes with different repayment requirements. As a result, after the SCRB analysis is complete, it is necessary to sub-allocate costs assigned to these purposes. Costs are sub-allocated on the basis of use or

¹⁴ Separable joint costs result from the reduced size of multi-purpose facilities when a given purpose is removed. The reduction in costs associated with the hypothetically re-sized facility reflects separable joint costs.

consumption, namely water deliveries and power generation. For the CAS, the sub-allocation of costs allocated to the water supply purpose is based on the proportion of water use across sub-purposes, and costs allocated to the power purpose are sub-allocated based on the proportionate share of power use. When units are not comparable between water and power, costs are allocated based on the relative investment for each purpose. More information on the water and power sub-allocation process is presented in Chapter 10.3.

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Chapter 5. Key Concepts and Assumptions

This chapter presents key concepts and assumptions used in the CVP CAS. The assumptions are applied to the allocation methodology outlined in Chapter 4, *Cost Allocation Methodology*.

5.1 Two Cost Allocation and Two-Period Repayment Approach

Reclamation policy (PEC 01-02) states that the period for estimating benefits and costs used in the cost allocation process will be the same as that used in project formulation and evaluation, which is the lesser of the economic life of the project or 100 years beyond the initial date of service. Since Shasta Dam was placed into service in 1945, major infrastructure additions, policy changes, and new regulations have altered the operations, authorized purposes, and benefits of the CVP. The SCRB methodology requires accurate estimation of benefits in order to appropriately allocate costs. Due to the substantial changes to the benefits and authorized purposes of CVP following the passage of CVPIA, Reclamation determined it prudent to evaluate the benefits of the CVP for two periods.

The first period (Period 1) allocation reflects historic operations and benefits as developed in the 1975 CVP cost allocation. The second period (Period 2) cost allocation represents current operations and benefits of the CVP following the passage of CVPIA. The final cost allocation presented in the CAS merges Period 1 and Period 2 allocations, putting equal weight to each period.¹⁵ The equal weight given to each period is supported by the approximate mid-point of the 100-year repayment period coinciding with the passing of the COA in 1986, and the subsequent changes to benefits and authorized purposes of the CVP.

The costs allocated in both Period 1 and Period 2 allocations are the total project costs presented in Chapter 3, *Project Facilities and Costs*, which consist of plant-in-service costs for both Reclamation and WAPA as of September 30, 2013.

5.2 Period of Analysis

For cost allocations, Reclamation is required to compare costs and benefits over the period of analysis. PEC 01-02 states: “The period for estimating benefits and costs used in the cost allocation process will be the same as that used in project formulation and evaluation which is the lesser of the economic life of the project, or 100 years beyond the initial date of service” (Reclamation 2013b). Given that the economic life of the CVP is expected to exceed 100 years, the CAS uses a 100-year period of analysis.

¹⁵ Note that the sub-allocation processes in Period 2 will be updated annually (see Chapter 12, *Implementation of the Final Cost Allocation*)

5.3 Base Year (2013)

Comparing costs and benefits that occur at different points in time requires that both benefits and costs be adjusted to a common price level for comparability. The year 2013 was selected as the base year because it corresponds to the underlying cost basis used in the CAS, namely the 2013 CVP financial statement. All historic costs are indexed to 2013 dollars. In addition, all prospective costs and economic benefits are measured in 2013 dollars.

5.4 Treatment of Post-Base Year Activities

Typically, the period of analysis is separated into historic and prospective conditions. Analysis of historic costs and benefits are estimated on actual observations, whereas prospective costs and benefits are forecasted. Estimation techniques are limited to information that is available at the time the analysis is initiated.

It is acknowledged that conditions in which the CVP operates vary over time as laws and policies change and other information becomes known. A common starting point for facts and data used to develop assumptions was selected corresponding to the base year of 2013 to maintain consistent data and assumptions across analyses. Future conditions known as of the base year and expected to exist over the 100-year period of analysis are included in the CAS. Reclamation has determined it prudent to utilize 2013 conditions to allow for timely completion of the CAS. Updating conditions, costs, and benefits would require Reclamation to perform the entire SCRB process again with new assumptions and would likely delay the completion of the CAS.

5.5 Interest Rate

Section 8 of PEC 01-02 states that all benefits and costs for allocation purposes will be placed on a comparable basis in relation to time of occurrence using the same interest rate and period of analysis. The interest rate (also referred to as discount rate) used for the CAS is 3.25 percent. The interest rate used complies with Section 80(b) of P.L. 93-251, which required a December 1968 discount rate for facilities authorized prior to January 1969 (this rate is 3.25 percent). The interest rate used in the CAS is the same interest rate used in past CVP cost allocation studies.

5.6 Single CVP-Wide Allocation

Unlike the existing allocation (Period 1) which utilized the concept of project “bases” for various types of facilities that were grouped together and subject to separate cost allocations, the Period 2 allocation treats CVP facilities across all divisions, units, regions, and programs as a single unit for the purposes of allocating costs. The Period 2 allocation returns to a project-wide approach because the CVP is financially and operationally integrated. The features constructed by USACE and the San Luis, Auburn-Folsom South, and San Felipe units have achieved their ultimate roles in the integrated

CVP. Through a single, integrated operational approach for the cost allocation, the final cost allocation factors can be clearly identified.

5.7 CVP Authorized Purposes

The CAS allocated costs among the following congressionally authorized purposes of the CVP: water supply, power, flood control, water quality, recreation, navigation, fish and wildlife enhancement, and fish and wildlife mitigation (which is treated as a joint cost for cost recovery). A description of each authorized purpose in the context of the cost allocation process is presented below.

5.7.1 Water Supply Purpose

The water supply purpose reflects the CVP's ability to deliver water. The objective of this section is to identify the components of the water supply purpose, discuss how water supply is treated in the CAS, and describe the water supply sub-allocation process.

5.7.1.1 Water Supply as a Single Purpose

Typically, irrigation and M&I water are treated as separate project purposes within a cost allocation. However, in the 1970 (Reclamation 1970) and updated 1975 (Reclamation 1975) CVP cost allocations, these purposes were combined into a water supply function which is further sub-allocated between irrigation, M&I, wildlife refuge, and waterfowl conservation based on the proportion of water delivered to each. This CAS similarly treats water supply as a single water supply function which is sub-allocated to specific water delivery purposes.

The use of a combined water supply purpose allows for adjustments to the proportionate share of costs allocated to irrigation and M&I as deliveries change over time. Additionally, when new units (San Luis and New Melones) are added to the project, the water supply approach allows for relatively easy incorporation of those costs into a CVP-wide allocation compared to treating irrigation and M&I as separate purposes. The 1970 cost allocation stated: "It was recognized that this approach may lose some conceptual correctness, but it was decided the accuracy lost is outweighed by the practical advantage gained from the water supply approach."

5.7.1.2 Components of Water Supply

The water supply purpose for Period 2 is comprised of irrigation, M&I, wildlife refuge, and CVPIA Section 3406(b)(2) (referred to as B2) water. Irrigation water supplies support irrigated agriculture in the CVP service area. M&I water supplies support urban development by providing reliable water supplies to the expanding population base. The CVP also provides water to refuges throughout the State in an effort to help support wildlife populations. Finally, the B2 component of the water supply purpose is measured based on both the volume released for B2 actions during excess conditions and the reduction in Delta exports required to meet B2 actions during balanced conditions. (See the *Hydrological Modeling Appendix* for more details.) Any water stored for the purpose of meeting the SWRCB D-1485 as well as the reasonable and prudent alternatives (RPA) of the biological opinions (BO) is not considered part of the water supply purpose and is considered a

joint cost in the CAS. Additionally, any water stored for the purpose of exceeding SWRCB D-1485 is not considered part of the water supply purpose (included as part of the water quality purpose).

5.7.1.3 Sub-Allocation of Water Supply

Water supply costs are sub-allocated to irrigation, municipal and industrial, wildlife refuge, and B2 functions on the basis of water use. Water supply delivery distributions are estimated by facility. Because Period 2 is a prospective analysis, the water delivery data is based on CalSim 2 modeling that is reflective of the current operating and regulatory environment. Information on B2 water supplies is derived from CVPIA water accounting records.

5.7.1.4 Water Supply Benefits and Costs

Irrigation and M&I benefits are estimated individually to arrive at the water supply total benefit value. Benefits are not estimated for wildlife refuge and B2 water supplies as benefits exceed the SPA. More information on the water supply benefit analysis is presented in Chapter 7, *Economic Benefits*.

In terms of costs, conveyance and pumping facilities generally accommodate water supply deliveries, so all of their costs are assigned to the water supply purpose. Storage facilities, on the other hand, typically serve multiple purposes, including water supply. Separable costs of multipurpose facilities to water supply required additional analysis. The SPA for water supply is based on determining the hypothetical size of each reservoir if it only served water supply purposes, plus all single-purpose water supply facilities.

5.7.2 Fish and Wildlife Enhancement Purpose

The fish and wildlife enhancement purpose is complex and requires additional attention to understand. CVPIA (P.L. 102-575) added “domestic uses and fish and wildlife mitigation, protection and restoration purposes” and “power and fish and wildlife enhancement” as authorized purposes for the CVP. For consistency with Reclamation practice, policy, and law, mitigation costs in the CAS are allocated to all project purposes as joint costs unless specified in specific legislation. The burden for operating the project is shared project-wide and not solely by the reimbursable purposes.

Fish and wildlife enhancement has requirements for allocating joint costs that have not been met, and therefore this purpose does not have costs allocated to it in the CVP. The Fish and Wildlife Coordination Act (60 Stat. 1080) dated August 14, 1946, and P.L. 85-624 dated August 12, 1958, provided that “measures to prevent loss of and damage to wildlife resources” were to be non-reimbursable costs.

Additionally, under PL 89-72, to allocate joint costs to the fish and wildlife enhancement purpose, there must be a commitment by a non-Federal entity to manage project land and water areas for fish and wildlife, as well as to pay a portion of the separable costs. Unless project-specific legislation exists regarding the allocation of joint costs to the fish and wildlife enhancement purpose, Reclamation typically relies on Section 2 of the Federal Water Project Recreation Act (FWPRA) (P.L. 89-72) of 1965, as amended, to determine how costs should be allocated to this purpose.

Prior to project authorization, FWPPRA requires that a non-Federal public entity commit in writing to administer project land and water areas for fish and wildlife enhancement, to bear a portion of separable costs allocated to fish and wildlife enhancement, and to bear all operating costs. Because no such commitments by non-Federal entities exist for the CVP, Reclamation determined that the Period 2 allocation would not allocate joint project costs to the fish and wildlife enhancement purpose.

5.7.3 Recreation Purpose

Reclamation relies on Section 2 of the FWPPRA of 1965, as amended, to determine the allocation of joint costs to recreation. FWPPRA requires that a non-Federal public entity commit in writing, prior to authorization, to administer project land and water areas for recreation, bear a portion of separable construction costs, and bear at least half of all operating costs.

Similar to fish and wildlife enhancement costs, absent any specific authorizing legislation and/or cost sharing agreements with non-federal entities for recreation facilities, no joint construction costs are allocated to the recreation purpose on a CVP-wide basis for Period 2. Certain single-purpose recreation facility costs are allocated to the recreation purpose as separable costs, including the Federal share of non-reimbursable costs associated with Lake Woollomes recreation facilities and San Justo Reservoir recreation facilities. The remaining portion of these recreation costs are also direct assigned to State and local entities pursuant to cost-sharing agreements.

5.7.4 Navigation Purpose

There are no costs allocated to the navigation purpose in Period 2. Navigation was originally a CVP purpose in recognition of historical commerce on the Sacramento River, which was supported by a CVP-authorized minimum flow of 5,000 cubic feet per second (cfs) at Chico Landing. However, there is no navigation currently supported by the CVP. The USACE has not dredged the reach between Sacramento and Chico Landing to preserve channel depths for navigation purposes since 1972. Furthermore, the CVP has no effect on the navigation of ocean-going ships calling at the ports of West Sacramento and Stockton.

5.7.5 Water Quality Purpose

For the Period 2 allocation, Reclamation has determined that it is appropriate to allocate joint project costs to the water quality purpose. Water quality benefits are estimated using the value of irrigation water as the most cost-effective source of water to meet water quality requirements. Water quality SPA costs are estimated using CalSim 2 hydrology modeling to identify the quantity of water stored specifically to exceed D-1485 water quality standards.

The SWRCB is responsible for setting water quality standards which govern the operations of both the CVP and the SWP for the San Francisco Bay/Sacramento-San Joaquin Delta and Estuary. Under P.L. 99-546, both the CVP and SWP are authorized to operate in close coordination pursuant to a Delta cooperative operating agreement. The COA also authorized the CVP to be specifically operated to meet SWRCB's D-1485 water outflow standard. P.L. 99-546 states:

The costs associated with providing Central Valley project water supplies for the purpose of salinity control and for complying with State water quality standards identified in exhibit A of the Agreement Between the United States of America and the Department of Water Resources of the State of California for the Coordinated Operations of the Central Valley Project and the State Water Project, dated May 20, 1985, shall be allocated among the project purposes and shall be reimbursed in accordance with existing Reclamation law and policy. The costs of providing water for salinity control and for complying with State water quality standards above those standards identified in the previous sentence shall be non-reimbursable.

CVP water supplies provide water quality benefits through increased river flows that help meet water quality standards. In terms of reimbursement of costs allocated to water quality, P.L. 99-546 directs that costs associated with providing CVP water supplies for salinity control and complying with State water quality standards (D-1485) are to be allocated among purposes and reimbursed according to Reclamation law and policy. Costs of exceeding D-1485 water quality standards are directed to be non-reimbursable. In 1999, the SWRCB adopted D-1641, amending certain water quality terms and conditions. Meeting D-1641 water quality standards requires exceeding the Delta outflow standards set by D-1485.

5.7.6 Flood Control Purpose

The CVP includes several dams and reservoirs authorized and constructed to meet multiple purposes, including flood control. There are facilities not authorized for flood control that do, in fact, provide flood protection, including Trinity Dam and Reservoir. Therefore, Trinity is included in the flood control analysis in the CAS, specifically the sizing of the flood control SPA. Flood control benefits are based on the value of flood damages prevented as estimated by the USACE. For SPA costs, reservoirs are re-sized for flood protection only based on hydrology analysis. All costs allocated to flood control are considered non-reimbursable.

5.7.7 Power Purpose

The power purpose in the CVP reflects hydropower generation at project facilities that are used for both commercial and project use purposes. Project use energy (PUE) is the power required to operate CVP facilities, such as pumping plants. Any power generated that is not used by the project is considered commercial power, which is marketed by WAPA.

The power purpose benefits are estimated using market prices. Power SPA costs are estimated based on a hypothetical thermal natural gas power plant, which is specifically authorized to serve the CVP. Separable costs assigned to power in the SCRB process are limited primarily to single-purpose power facilities.

Costs allocated to the power purpose are sub-allocated between commercial power and PUE proportionate to their respective projected use of CVP power. PUE costs are further sub-allocated among irrigation, M&I, and wildlife refuges proportionate to their projected water use (similar to the water supply sub-allocation, with exception of B2 water supplies). Costs allocated to commercial power are reimbursable from CVP power preference customers.

5.7.8 Fish and Wildlife Mitigation Purpose

P.L. 89-72, FWPCA, dated July 9, 1965, repealed the non-reimbursable provision for mitigation costs while maintaining only fish and wildlife enhancement costs as non-reimbursable. Consequently, fish and wildlife mitigation activities that were authorized and implemented between 1946 and 1965 are treated as non-reimbursable costs, and mitigation activities implemented after 1965 are considered reimbursable. Fish and wildlife mitigation activities have stipulations in legislation that also provide specific allocations, CVPIA being a clear example. Non-reimbursable fish and wildlife mitigation is different than fish and wildlife enhancement, which is also a non-reimbursable cost.

5.8 Allocation of New Melones Unit Cost

The New Melones Unit was first authorized in 1944 to be constructed by the USACE and upon completion was transferred to Reclamation for integration into the CVP. Reclamation has been using the USACE cost allocation for the New Melones Unit (House Doc 453, March 22, 1962) since it became an integrated part of the CVP. The initial USACE allocation was based on significant recreation development that was never realized. Reclamation continued to incorporate the USACE cost allocation into CVP allocations after the inception of the New Melones Unit.

Reclamation determined that no legislative authorities preclude the modification of the USACE allocation for New Melones (or other facilities constructed by USACE). The transfer of facilities to Reclamation included transfer of responsibility to achieve operational and financial integration into the CVP. The CAS reallocates New Melones costs as part of the CAS.

5.9 Water Distribution Systems (Repayment Contracts)

Distribution of water from CVP conveyance facilities (i.e., canals) to the individual water users is the responsibility of the local districts, which use distribution systems comprised of lateral canals and pipelines to convey water to individual farms and municipalities. The costs included in the SCRB process are those costs associated with storage and conveyance of water, but not any distribution system costs beyond the contractor turnout. Water distribution system costs subject to Reclamation repayment contracts are assigned directly to the applicable contractors, rather than through the CAS process. Privately-financed distribution systems are not within the scope of the CAS.

5.10 Safety of Dams Costs

Several dams in the CVP have been modified since their construction for seismic, security, and potential failure risks under Reclamation's Safety of Dams program. These include Folsom Dam and Reservoir, Little Panoche Creek Detention Dam, Los Banos Creek Detention Dam and Reservoir, and O'Neill Dam Forebay and Waterway. SOD legislation stipulates that 15 percent of SOD costs are to be reimbursed by water and power users and the remaining 85 percent of costs are non-reimbursable. With the exception of recent SOD activities at Folsom Dam that are not in repayment

(and not allocated in the CAS), all existing SOD-related costs are treated as direct assigned costs, and thereby excluded from the SCRB analysis. Reimbursable SOD costs are assigned to the reimbursable purposes according to Reclamation policy and practice described below.

On April 17, 2007, the Mid-Pacific Region of Reclamation requested approval from Reclamation's Office of Program and Policy Services to utilize the CVP Irrigation and M&I Ratesetting Policies to repay these SOD costs assigned to water contractors. Under the ratesetting policy, reimbursable SOD costs are collected as storage from all CVP water contractors with the exception of Class 2 water contractors in the Friant Division. In keeping with the spirit of a repayment contract, the split of repayment responsibility between water supply and commercial power remains static, while the split between irrigation and M&I varies annually depending on actual water use. Approval to use the ratesetting policy was granted September 21, 2007.

5.11 Mitigation Costs

Mitigation is broadly defined as project-related activities to avoid, minimize, or compensate for the adverse effects of project construction and operations on affected resources (i.e., environmental, archeological, or cultural). Within the CVP, mitigation costs are commonly associated with two types of activities:

- **ESA-Related RPA Mandates.** CVP facility costs associated with reservoir releases to augment fish flows mandated by the National Marine Fisheries Service (NMFS) of the National Oceanic and Atmospheric Administration (NOAA) and RPAs in the BOs prepared by the USFWS.
- **Non-CVPIA Facilities.** Other fish and wildlife facility costs not authorized under CVPIA. Refer to the CAS Facility List Attachment for additional details.

5.11.1 Reimbursement of Mitigation Costs

For consistency with Reclamation practice, policy, and law, mitigation costs in the CAS are treated as joint costs and allocated to all project purposes unless specified in specific legislation. The burden for operating the project is shared project-wide and not solely by the reimbursable purposes.

5.12 Central Valley Project Improvement Act Costs

As a separate program, CVPIA also mitigates for impacts to fish and wildlife resources from the CVP. Mitigation under CVPIA is distinct from general mitigation costs referenced in Section 5.11 in that the activities are specifically authorized under CVPIA and have specific cost recovery assignments. There are different types of costs associated with the implementation of CVPIA. First, there are plant-in-service CVPIA facilities shown in Schedule No. 1 of the CVP financial statements. There are also CVPIA O&M costs that are recovered in part by payments to the CVPIA Restoration Fund. Finally, there are costs of CVP facilities (both construction and O&M) that get assigned to CVPIA activities that are recovered through the CVP water ratesetting process. The treatment of

CVPIA costs are described in Reclamation's Business Practice Guidelines for CVPIA Receipts, Program Accounting, Cost Allocation, and Cost Recovery (BPG).

5.12.1 CVP Facility Costs Assigned to CVPIA

The portion of the cost of CVP facilities that is required to store and convey CVP water to meet CVPIA requirements is sub-allocated as part of the water supply purpose.¹⁶ The water supply sub-allocation assigns costs to the refuge water supplies outlined in section 3406(d)(1) of the CVPIA and the mitigation water supplies referenced in section 3406(b)(2) of the CVPIA.

CVPIA Section 3406(d)(1) Wildlife Refuge (also referred to as Refuge Water Supply):

Section 3406(d) of the CVPIA requires Reclamation to provide CVP water to meet Level 2 water demands and to obtain water supplies to meet Incremental Level 4 water demands for optimal waterfowl habitat management needs at identified wildlife refuges managed by the USFWS (Reclamation 1989). Water supply costs associated with storage and delivery of Level 2 water supplies are assigned to Level 2 as part of the water supply sub-allocation and are considered reimbursable by water and power users exclusively.

Incremental Level 4 water costs are associated with water acquisition independent from CVP water supplies. Although Incremental Level 4 refuge supplies are purchased from non-CVP sources, Incremental Level 4 refuge water supply costs associated with CVP conveyance facilities are captured as part of the water supply sub-allocation process and are considered non-reimbursable, and they are allocated 75 percent to Federal government and 25 percent to the State of California.

O&M costs of conveying both Level 2 and Incremental Level 4 water supplies are recovered independently as part of the CVPIA program. However, a portion of the construction costs of CVP conveyance facilities is also sub-allocated to refuges (both Level 2 and Incremental Level 4) as part of the water supply sub-allocation process and collected through water rates.

CVPIA Section 3406(b)(2) Water Supplies (also referred to as B2 Water Supply):

The sub-allocation of water supply costs includes the B2 sub-purpose, which is considered reimbursable. More information on the treatment of B2 costs is presented in Chapter 10, *Cost Allocation Results (Period 2)*. Section 3406(b)(2) provides for the dedication and management of 800,000 acre-feet (AF) of CVP yield to be used for the "primary purpose of implementing the fish, wildlife, and habitat restoration purposes and measures authorized by [CVPIA] (also referred to as B2 water supplies); to assist the State of California in its efforts to protect the waters of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary; and to help meet such obligations as may be legally imposed upon the CVP under State or Federal law...including but not limited to additional obligations under the Federal ESA."

¹⁶ The sub-allocation of PUE costs also includes an allocation to the refuge water supply sub-purpose, but not B2 water supply.

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Chapter 6. Hydrological Modeling

This chapter briefly describes the hydrological modeling analyses and results developed to support the CAS. See the *Hydrological Modeling Appendix* for more detailed description of tools, assumptions, and data used for the CVP CAS. The CAS relies on hydrological modeling for two main purposes: (1) the development of hydrological inputs used to estimate the economic benefits presented in Chapter 7, *Economic Benefits*, and (2) the development of multipurpose facility SPA sizes discussed further in Chapter 8, *Single-Purpose Alternatives*. In addition, hydrological modeling was considered to estimate separable costs for multipurpose facilities (“omitted purpose analysis”) and it was determined that no re-sizing was necessary. The primary hydrological model used to support the CAS is CalSim 2, which models CVP reservoir storage and conveyance deliveries under a range of hydrological and regulatory conditions. An overview of the hydrological modeling and results for the water supply, water quality, hydropower, and flood control purpose are provided below. In addition, sizing multipurpose storage facilities to meet CVPIA is described, followed by a brief description of a hydrology sensitivity analysis.

6.1 Overview of the Hydrological Modeling

Hydrological model applications used in the CAS analysis include CalSim 2, Flow Tracker, and the Single Purpose Facility Sizing Model (Sizing Model). CalSim 2 is a reservoir-river simulation model developed by the California Department of Water Resources (DWR) and Reclamation commonly used for long-term water supply reliability planning.

The Flow Tracker model was developed to identify SWP storage releases made specifically for Delta outflow as input to the Sizing Model. Additional analysis included post-processing of CalSim 2 results and evaluation of CVPIA records. A spreadsheet post-processor for CalSim 2 results refined the model’s representation of drought year allocation decisions to ensure that delivery results reflect recent operations. An evaluation was made of CVPIA 3406(b)(2) accounting records to determine the use of storage to accomplish the goals of this program.

The CAS analysis uses CalSim 2 to estimate project deliveries and flows under a range of regulatory environments¹⁷. CalSim 2 results are used as the basis for economic benefits of water supply, water quality, flood control, and hydropower as well as in the SPA sizing analyses. Flood control benefit and hydropower SPA facility sizing analyses do not directly use CalSim 2 output.

¹⁷ CalSim 2 modeling incorporated the regulatory environment as of 2013 and is based on an historic 82-year hydrological record (1922–2003). The model has various constraints, including contract maximums, which are used as an upper bound for water deliveries. CalSim 2 estimates deliveries in consideration of the constraints, regulations, available water supply, and other factors explained in the *Hydrological Modeling Appendix*.

6.2 Water Supply Purpose

CalSim 2 input criteria is used to quantify the deliveries that define the water supply purpose and to determine the water supply SPA storage facility sizes for the major CVP reservoirs. Estimated deliveries are summarized by water year type for irrigation, M&I, and wildlife refuges (Level 2) in Table 6-1. Note that these deliveries are summarized from the post-processed CalSim 2 delivery results, which differ from the water deliveries used as input to the economic models (see the *Economic Benefits Analysis Appendix* for more details). Table 6-2 displays the full size and water supply SPA size for the five multipurpose CVP reservoirs that serve the water supply purpose – Friant, New Melones, Trinity, Shasta, and Folsom. Reservoir sizes are measured in thousand acre-feet (TAF). Note that water supply SPA sizes displayed here include volumes associated with CVPIA B2 management actions. Volumes associated with CVPIA B2 management actions are estimated separately, discussed below, and included in the CVP reservoir sizes used in cost estimates (see Chapter 8, *Single-Purpose Alternatives*).

Table 6-1. Estimated Annual Water Supply Deliveries by Water Year Type (TAF)

Delivery Type	Wet	Above Normal	Below Normal	Dry	Critical
Irrigation	6,118	5,603	4,946	4,353	3,121
M&I	606	606	506	447	357
Level 2 Refuge	369	369	369	362	291

Table 6-2. Water Supply SPA Storage Facility Sizing (TAF)

CVP Reservoirs	Full Size	SPA Size (without CVPIA B2)¹	SPA Size (CVPIA B2)	Total SPA Size
Trinity	2,447	709	24	733
Shasta	4,552	1,391	44	1,435
Folsom	967	181	10	191
New Melones	2,420	640	2	642
Friant	524	476	0	476

1. Includes dead pool storage requirements

6.3 Water Quality Purpose

Water quality responsibilities of the CVP are expressed both by salinity standards, which are met by flow, and by flow requirements that can be surrogates for temperature or dissolved oxygen. Under the complex combined operations of the CVP and SWP, water that is provided to meet a water quality standard at one location can also be used to satisfy a delivery or water quality standard at another location. It can thus be difficult to discern a specific operation for incremental water quality. Quantifying the differences between CVP operations to meet D-1485 and D-1641, and determining the storage necessary to accomplish this, were the goals of the hydrology analysis for the water quality purpose. Separate CalSim 2 studies were developed to represent system operations under both D-1641 and D-1485. A comparison of results between these scenarios shows differences in river flows, Delta outflow, deliveries, exports, and storage conditions, particularly in the Sacramento River basin. The differences in deliveries between these studies reflect the water deliveries that are foregone in order to meet the higher water quality standards of D-1641. These foregone deliveries were used as inputs to economic benefits models to calculate the representation of economic benefit for the water quality purpose. Table 6-3 displays estimated annual delta outflows and foregone irrigation, M&I, and refuge water deliveries by water year type.

Table 6-3. D-1641 Estimated Annual Water Requirements by Source and Water Year Type (TAF)

Parameter	Wet	Above Normal	Below Normal	Dry	Critical
Delta Outflows ^{1,2}	0	0	206	338	449
Foregone Irrigation Deliveries	34	114	167	118	171
Foregone M&I Deliveries	2	5	7	4	10
Total	36	119	380	460	630

1. Represents CVP portion of Delta outflow requirement
2. CalSim 2 modeling shows that estimated Delta outflow requirements in wet and above normal years are negative; these values have been adjusted to zero.

Table 6-4 shows the storage facility Sizing Model results for the SPA for water quality. New Melones does not appear in Table 6-4 because the difference in SPA is negligible. New Melones does meet water quality standards at Vernalis and dissolved oxygen standards at Ripon, but overall differences in the combinations of criteria between D-1485 and D-1641 resulted in the reservoir needing to be the same size under both regulatory environments. Friant does not serve a water quality purpose.

Table 6-4. SPA Storage Size Results for the Water Quality Purpose (TAF)

CVP Reservoir	Full Size	D-1485 with Current Deliveries	D-1641 with Current Deliveries	Difference = SPA storage size for water quality	Minimum Storage (Deadpool)	Total SPA Size¹
Trinity	2,447	1,793	1,905	112	240	353
Shasta	4,552	3,361	3,567	206	550	756
Folsom	967	718	757	39	90	129

1. Includes storage requirements for CVPIA B2 water quality objectives

6.4 Hydropower Purpose

Estimated energy generation in the CVP system is the basis of the hydropower economic benefit analysis and thermal plant SPA sizing for the hydropower purpose (see Section 8.5 for details on the thermal plant SPA). The long-term generation (LTGEN) model (developed by Reclamation and WAPA) converted monthly data of reservoir releases from the CalSim 2 hydrology model to estimate hourly CVP power generation available to meet preference power and project use requirements. The LTGEN model estimated monthly power generation and use in megawatt hours (MWh) for each CVP power facility based on CalSim 2 modeling.

CalSim 2 delivery and release data is used as an input for the LTGEN model to estimate the annual amount of energy that would be produced by CVP power facilities for the 100-year period of analysis. Table 6-5 displays the CVP system estimated annual energy generation and consumption by water year type.

Table 6-5. Estimated Annual Power Generation and Consumption by Water Year Type (GWh)

Power Component	Wet	Above Normal	Below Normal	Dry	Critical
Energy Generation	6,463	5,211	4,226	3,909	3,024
Energy Use	1,417	1,216	1,126	1,017	694
Net Generation	5,046	3,995	3,100	2,891	2,330

6.5 Flood Control Purpose

CalSim 2 output is used to develop SPA storage facility sizing for the flood control purpose. The CVP storage facilities which operate for flood control are Trinity, Shasta, Folsom, New Melones,

and Friant (Millerton). All of these facilities except for Trinity include flood control in their authorizing legislation. The flood control rule method is used for determining the SPA sizes of a reservoir, which involves selecting the largest value for required flood space in a reservoir from the historical flood control diagrams and adding this to the dead pool space. Table 6-6 provides a summary of sizing results produced by this method.

Table 6-6. SPA Storage Size Results for the Flood Control Purpose (TAF)

CVP Reservoir	Minimum Flood Control Rule	Storage Capacity	Flood Space Required	Minimum Storage (Dead Pool)	Flood Control SPA Size
Shasta	3,250	4,552	1,302	550	1,852
Folsom	367	967	670	90	690
New Melones	1,970	2,420	450	80	530
Millerton	351	524	174	135	309

Trinity has a unique flood control mandate relative to the other four facilities since flood control is not an explicitly authorized purpose. Instead the dam operates to protect downstream assets under the Trinity River Mainstem Fishery Restoration ROD. Due to the unique nature of the flood control mandate for Trinity, a daily hydrology model analysis is used to determine the flood control SPA for Trinity of 578 TAF.

6.6 Sizing Multipurpose Storage Facilities to Meet B2 Objectives

CVPIA Section 3406(b)(2), or B2, dedicates an annual portion of project yield for the “primary purpose of implementing the fish, wildlife, and habitat restoration purposes and measures authorized by this title; to assist the State of California in its efforts to protect the waters of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary; and to help meet such obligations as may be legally imposed upon the Central Valley Project under State or Federal law following the date of enactment of this title, including but not limited to additional obligations under the Federal Endangered Species Act.”

Reclamation records of annual B2 accounting specify how much B2 water is ultimately used by purpose, although water that is ultimately exported is not included in the accounting. Existing analysis identified the water storage requirements specifically for B2 to be 208 TAF, excluding B2 water that is ultimately exported as irrigation or M&I water. This figure can be broken into three pieces: B2 actions attributed to the water supply purpose (79 TAF); B2 for RPA mitigation (69 TAF); and B2 for water quality (60 TAF) (see the *Hydrological Modeling Appendix*).

The CAS considers the storage cost of producing CVPIA instream flow actions and of exports that are foregone due to CVPIA Delta actions. Due to the continuous and evolving nature of CVPIA

accounting methodologies, it has not been possible to include a consistent long-term plan for B2 actions in the CalSim 2 model. Consequently, daily accounting records detailing historical storage releases and export reductions used for actions from 2008 to 2014 were analyzed.

The required storage for B2 water supply actions is calculated as the 2008-2014 average annual total of the volume of releases designated to have been made for B2 actions during excess conditions and the average annual volume of exports reduced for B2 actions during balanced conditions. This average annual volume is distributed among the storage facilities based on proportional B2 releases from each reservoir (instream release element) and distribution of north-of-Delta CVP reservoir sizes (export reduction element). Table 6-7 displays the estimated storage reserves used to meet B2 action management for Trinity, Shasta, Folsom, and New Melones storage facilities.

Table 6-7. Estimated Average Annual Storage Requirements Used to Meet B2 Water Supply Objectives (TAF)

B2 Objective	Trinity	Shasta	Folsom	New Melones	Total
B2 – Water Supply	24.1	43.7	9.6	1.6	79.0

6.7 Hydrology Sensitivity Analysis

The CAS relies on recent information from the Sacramento and San Joaquin Rivers Basin Study (SSJRBS) to assess the potential differences in water supply availability that might occur between a no-climate-change scenario and various other future climate change projections (see the Hydrology Sensitivity Analysis Attachment to the *Hydrological Modeling Appendix* for more details).

The SSJRBS modeling generated a substantial amount of quantitative information, some of which is used for this CAS assessment. The assessment is composed of specific statistical tests, which describe how the hydrology may differ under various climate projections (i.e., warm-dry, hot-dry, hot-wet, warm-wet, and central tendency). One statistical test compared the hydrologic inflows into the Sacramento and San Joaquin Valleys under a no-climate-change scenario to the inflows under a range of future climate projections by annual total and monthly distribution, and in groups of average annual totals by water year type. Another test compared CVP water deliveries under a no-climate-change scenario to CVP deliveries under a range of future climate projections. The results of the statistical assessment were used to qualitatively characterize potential climate change effects on CVP benefits and SPAs estimated for the CAS.

Since the central tendency projection includes a relatively large ensemble of 175 different projections, it is believed that it provides a reasonable and appropriate reference point to compare its associated inflows/deliveries to those associated with the no-climate-change projection. The results of the tests indicate that the inflows into the Sacramento and San Joaquin Valleys associated with the no-climate-change scenario and the inflows associated with the central tendency climate projection are not significantly different. Similarly, no significant difference was found between the

no-climate-change and central tendency projections in terms of total CVP deliveries. The results of the climate change statistical tests indicate, in terms of inflows and deliveries, the hydrology used in the CAS was reasonable and appropriate and by extension, that the estimate of benefits and SPA sizing of storage facilities was reasonable. See the Hydrology Sensitivity Analysis Attachment to the *Hydrological Modeling Appendix* for more details.

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Chapter 7. Economic Benefits

This chapter presents the results of the economic benefit analyses prepared for the CAS. The economic benefits for each authorized purpose are used to evaluate the justifiable expenditure for each authorized purpose in the SCRB analysis. The justifiable expenditure for each authorized purpose is the lesser of the SPA cost (presented in Chapter 9, *Cost Estimates*) and the economic benefits of the authorized purpose described in this chapter. Detailed documentation of the economic benefit analyses prepared for the CAS is presented in the *Economic Benefits Analysis Appendix*.

7.1 Overview of the Economic Benefits Analyses

The economic valuation approach for the CVP CAS is consistent with the *Federal Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies* (P&G) (WRC 1983). The P&G indicate the Federal objective of water and related land resources project planning is to contribute to national economic development consistent with protecting the nation's environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements.

CVP CAS economic benefits are estimated for the four purposes that generate benefits and meet cost-sharing requirements: water supply, water quality, flood control, and power. Water supply benefits are attributed to two water supply sub-purposes, irrigation and M&I. Water quality benefits are based on the water supply required to meet water quality standards. Flood control benefits are based on the avoided flood damages provided by CVP facilities. Power benefits are based primarily on the market value of power produced by CVP hydropower generation facilities, in conjunction with ancillary service and capacity benefits.

7.2 Economic Analysis Parameters

The economic benefits presented in this chapter are based on analysis of operations of the CVP over a 100-year period. The operational conditions assumed over the 100-year period are designed to be representative of the benefits and authorized purposes under current regulatory conditions. The methodology used to estimate economic benefits has the following common elements, except where noted:

- Hydrology outputs from the CalSim 2 model presented in the *Hydrological Modeling Appendix* are used as inputs for the economics models, with the exception of flood control which are based on damages avoided as estimated by the USACE.
- All benefit values are presented in 2013 dollars.
- The annual economic benefits attributed to each project purpose are estimated for each water year type. A representative annual benefit is developed for each project purpose by calculating

the weighted average of benefits based on the distribution of water year types in the hydrologic record.

- The total benefit estimated for each project purpose in the SCRB reflects the present value of the representative annual benefit received each year over a 100-year period using a discount rate of 3.25 percent.
- The benefits estimated for each water-year type are based on the 82-year hydrological record (1922 – 2003) in CalSim 2. Subsequent to model runs and prior to completion of the CAS, additional water-year type data through 2013 became available. Reclamation, in coordination with CAS stakeholders agreed to include the water years 2004 – 2013 for the sole purpose of computing water-year type weights. The different water-year types are weighted based on the relative distribution in the hydrologic record extended through 2013. Water year classifications are based on the SWRCB Sacramento Valley index. The weights across the five water-year types are:
 - Wet (30.4 percent)
 - Above Normal (14.1 percent)
 - Below Normal (18.5 percent)
 - Dry (22.8 percent)
 - Critical (14.1 percent)

7.3 Irrigation Water Supply Benefits

This section presents a summary of the methodology and results of the analysis used to estimate economic benefits attributed to CVP irrigation water supplies. More detailed information about the irrigation benefit analysis is in the *Economic Benefit Analysis Appendix* to this report.

7.3.1 Irrigation Benefits – Methodology

Irrigation water supply benefits are based on the change in net farm income that results from the application of CVP water to irrigate crops. The Irrigation water supply benefits are quantified using the Statewide Agricultural Production (SWAP) model and irrigation water delivery data developed with the CalSim 2 hydrological model (see Chapter 6, *Hydrological Modeling*). The SWAP model is a regional agricultural production and economic optimization model used to simulate the decisions of farmers across agricultural land in California. The SWAP model has been used to estimate CVP irrigation benefits for numerous Reclamation and DWR studies. The SWAP model assumes growers select the level of inputs such as cropping acreages, labor, and water use to maximize profit subject to resource, market, and technology constraints. The SWAP model used for the CAS was calibrated to observed cropping patterns and land use data (year 2010 data).

7.3.2 Irrigation Benefits – Results

The economic benefits associated with CVP irrigation water supplies are estimated as the additional profit realized by farmers across SWAP regions from applying CVP water supplies. Irrigation

benefits are comprised of four components: net farm income (excluding water and land fallowing costs), avoided surface water costs, avoided groundwater pumping costs,¹⁸ and avoided land fallowing costs. Table 7-1 displays estimated irrigation benefits attributed to the CVP. The greatest benefits occur in wet years (\$877.2 million annually) based on the relatively high quantity of CVP surface water that is delivered while the lowest benefits occur in critical years (\$176.9 million annually).

Table 7-1. Estimated Annual Economic Benefits of CVP Irrigation Water Supplies, by Water Year Type (\$millions)

Benefit	Wet	Above Normal	Below Normal	Dry	Critical	Weighted Average
Irrigation	\$877.2	\$642.3	\$485.7	\$316.6	\$176.9	\$544.7

The weighted average annual irrigation benefit (\$544.7 million) is capitalized over the 100-year period of analysis using a 3.25 percent interest rate. The present value of estimated CVP irrigation benefits is approximately \$16.1 billion.

7.4 Municipal & Industrial Water Supply Benefits

The economic benefits associated with CVP M&I water are estimated as the avoided costs associated with CVP M&I surface water deliveries. Additional information about the M&I benefit analysis is presented in the *Economic Benefit Analysis Appendix* to this report.

7.4.1 M&I Benefits – Methodology

M&I water supply benefits are estimated as the avoided costs of water supply reliability with-CVP in place relative to costs without-CVP in place. M&I benefits are estimated using two economic planning models widely used in California. The Least Cost Planning Simulation Model (LCPSIM) and the Other Municipal Water Economics Model (OMWEM) are used to estimate CVP M&I benefits with water delivery data developed with the CalSim 2 hydrological model (see Chapter 6, *Hydrological Modeling*). The LCPSIM is used to estimate M&I benefits in the San Francisco Bay Area and OMWEM is used to estimate benefits to CVP contractors outside the San Francisco Bay Area. A small portion of CVP M&I contractors' benefits are estimated using output from OMWEM and are not modeled directly in OMWEM or LCPSIM. The results from each model are combined for estimating total benefit by creating a weighted average based on acre-foot deliveries to customers in each area.

¹⁸ The irrigation benefits presented in this study do not account for projected groundwater conditions anticipated under the Sustainable Groundwater Management Act (SGMA) enacted in 2014. Implementation of SGMA over the period of analysis will likely increase the value of irrigation benefits in the CVP; however, additional irrigation benefits will not affect the results of the cost allocation as the water supply SPA costs represent the justifiable expenditure for that authorized purpose in the SCRB analysis.

LCPSIM and OMWEM models are annual time-step urban water service system simulation and optimization models with the objective of finding the least-cost water management strategy for a region, given the mix of demands and available supplies. The models estimated benefits based on the least-cost water management strategy for a region using the most likely non-Federal options that would be implemented in the absence of the CVP. The two models have been used to estimate CVP M&I benefits for numerous Reclamation and DWR studies and were selected because of the need to estimate system-wide benefits rather than benefits at the margin of the California water market.

The models use contract delivery data (modeled in CalSim 2), local water supply information, and imported water information (if applicable) to simulate the decision-making needed to meet 2030 water demand levels at the lowest economic cost. The models include shortage management measures (e.g., use of regional carryover storage, water market transfers, and contingency conservation) and shortage allocation rules to reduce regional costs and losses associated with shortage events. The models also include long-term regional demand reduction and supply augmentation measures (e.g., toilet retrofit programs and wastewater recycling) that reduce the frequency, magnitude, and duration of shortage events.

7.4.2 M&I Benefits – Results

Table 7-2 presents CVP M&I benefits by water year type. The benefits represent the avoided costs of water supply reliability with-CVP in place relative to costs without-CVP in place. The M&I water supply benefit is estimated to be approximately \$220 million. The total benefit is estimated as the weighted average of expected costs with-CVP, minus weighted average expected costs without-CVP (\$207.6 million), plus the total benefits of other CVP M&I contractors not included in OMWEM or LCPSIM (\$12.4 million).

Table 7-2. Estimated Annual Economic Benefits of CVP M&I Water Supplies, by Water Year Type (\$millions)

Benefit	Wet	Above Normal	Below Normal	Dry	Critical	Weighted Average
CVP M&I Benefits Estimated with LCPSIM and OMWEM	\$213.2	\$201.2	\$190.6	\$223.1	\$198.9	\$207.6
CVP M&I Benefits for Other CVP Contractors						\$12.4
Total						\$220.0

The weighted average value of M&I benefits is estimated to be \$220 million annually. The present value of CVP M&I benefits is approximately \$6.5 billion based on a project life of 100 years and a discount rate of 3.25 percent.

7.5 Water Quality Benefits

This section presents a summary of the methodology and results of the analysis used to estimate the economic benefits attributed to water quality provided by the CVP. Additional information about the water quality benefit analysis is presented in the *Economic Benefit Analysis Appendix* to this report.

7.5.1 Water Quality Benefits – Methodology

Water quality benefits for the CAS are based on the foregone value of the next best use of the water used to meet water quality standards. CVP water quality benefits are based on the irrigation value of water which is estimated using the SWAP model. Water Quality benefits are quantified using the SWAP model and foregone water delivery data developed with the CalSim 2 hydrologic model (see Chapter 6, *Hydrological Modeling*).

The fundamental premise of the water quality benefit analysis is that all CVP water required to meet incremental D-1641 water quality (above D-1485 requirements, also referred to as incremental difference) requirements must be valued, including foregone irrigation and M&I/refuge deliveries and Delta outflows. As shown in Chapter 6, *Hydrological Modeling* (Table 6-3), this quantity ranges from a low of 36 TAF in wet years to nearly 630 TAF in critical years, averaging 172 TAF across all water years.

7.5.2 Water Quality Benefits – Results

The water quality benefits for the CVP are based on SWAP modeling, which provided a proxy value for water quality benefits using agricultural values. The benefits reported by SWAP are calculated based on changes in net farm income, surface water and groundwater costs, and land fallowing costs.

Table 7-3 displays estimated water quality benefits attributed to the CVP. Water quality benefits are estimated to be \$49.4 million annually, on average. The greatest benefits occur in critical years (\$103.3 million annually) based on the relatively large quantity of CVP water that is needed to meet incremental D-1641 water quality standards. Conversely, the lowest benefits occur in wet years (\$7.0 million annually).

Table 7-3. Estimated Annual Economic Benefits of CVP Water Quality, by Water Year Type (\$millions)

Benefit	Wet	Above Normal	Below Normal	Dry	Critical	Weighted Average
Water Quality	\$7.0	\$21.4	\$60.7	\$80.6	\$103.3	\$49.4

For the CAS, annual water quality benefits are discounted over the 100-year period of analysis using a 3.25 percent interest rate. The present value of estimated CVP water quality benefits is estimated to be approximately \$1.5 billion.

7.6 Flood Control Benefits

The CVP is composed of several dams and reservoirs that are authorized and constructed to meet multiple purposes, including flood control. Flood control benefits are estimated for Shasta, Folsom, New Melones, and Friant CVP dams/reservoirs.

There are several other CVP facilities that provide flood control benefits which have not been quantified for the CAS. These facilities include Trinity Dam and Reservoir, Los Banos Creek Detention Dam, and Whiskeytown Dam and Reservoir. Although these facilities provide flood control benefits, they have not been quantified due to lack of available data. As such, the benefits provided in this paper represent a lower bound of flood control benefits provided by the CVP.

The omission of flood control benefits at these facilities does not affect the cost allocation because the flood control SPA (and not benefits) represents the justifiable expenditure for flood control in the SCRB calculations. Additional information about the flood control benefit analysis is presented in the *Economic Benefit Analysis Appendix* to this report.

7.6.1 Flood Control Benefits – Methodology

The flood control benefit estimates are made for Shasta Dam and Reservoir, Folsom Dam and Reservoir, the New Melones Dam and Reservoir, and Friant Dam and Reservoir using historical annual damages-prevented information provided by the USACE, Sacramento District. The USACE calculates annual damages prevented by comparing downstream river stages at selected sites under regulated flow conditions and unregulated flow conditions. The river stages under each condition are then compared to a stage-damage curve which describes the amount of damages that could be expected based on a range of river stages representing high exceedance probability to low exceedance probability flow events. The lower amount of damages under the with-project condition as compared to the without-project condition reflects the positive effects of reservoir operations on downstream flows and are considered to be the damages prevented (benefits). The USACE dataset on flood control benefits used for this report covers historical conditions through the year 2010. The estimates of nominal flood control benefits are updated to October 2013 price levels using the Gross Domestic Product (GDP) Implicit Price Deflator.

7.6.2 Flood Control Benefits – Results

The total damages prevented are divided by the number of years of record, by facility, to derive an average annual damages-prevented value. For example, the total damages prevented for Shasta Dam and Reservoir over the entire period of record for that reservoir (1952 to 2010) were approximately \$29.0 billion (2013 dollars). This value is then divided by 59 (the number of years in the period of record for Shasta Dam) to derive an average annual value for prevented flood damages of approximately \$491.5 million (note that the period of record for each dam and reservoir varies). Table 7-4 displays the average annual flood control damages-prevented values for each dam/reservoir. Total flood control benefits are estimated to be nearly \$1.3 billion annually, on average.

Table 7-4. Estimated Annual Economic Benefits of CVP Flood Control, (\$millions)

CVP Reservoir	Benefits (Annual)
Shasta	\$491.5
Folsom	\$761.2
New Melones	\$15.9
Friant (Millerton)	\$18.8
Total	\$1,287.3

For the CAS, annual flood control benefits are discounted over the 100-year period of analysis using a 3.25 percent interest rate. The present value of estimated CVP flood control benefits is approximately \$38.0 billion. As noted above, the estimated benefits represent a lower bound of flood control benefits provided by the CVP.

7.7 Power Benefits

This section summarizes the results, and the analytical method used to estimate the economic benefits attributable to CVP hydropower generation. Treatment of the San Luis pump-generating unit in relation to hydropower and water supply benefits is also discussed. Power benefits are estimated based on the actual or simulated market prices associated with CVP hydropower services. Additional information about the power benefit analysis is presented in the *Economic Benefit Analysis Appendix* to this report.

7.7.1 Power Benefits – Methodology

Hydropower benefits are estimated in consultation with WAPA. The value of power benefits evaluated for the CAS is composed of the following three elements: (1) forecasted California Independent System Operator (CAISO) hourly day-ahead market prices for energy from PLEXOS model, (2) forecasted CAISO hourly day-ahead market prices for ancillary services from PLEXOS model, and (3) planning capacity/resource adequacy to meet expected future demand/load growth considerations by applying CAISO market prices for resource adequacy to the estimated capacity provided by the CVP resource. CVP energy generation is estimated using output from CalSim 2 and LTGEN models (see Chapter 6, *Hydrological Modeling*, for more details), and inputs into the PLEXOS model used a forecasted database used by the California Public Utilities Commission for energy resource planning (see the *Economic Benefits Analysis Appendix* for more details).

Energy, ancillary services, and planning capacity/resource adequacy components of estimated annual CVP hydropower benefits are described below:

- **Energy** – Electricity generation that is scheduled to be provided when it is most valuable, if possible.
- **Ancillary Services** – For the purposes of the CVP CAS, only include spinning, non-spinning, and replacement reserves used in estimating power benefits. Other ancillary services as defined by Western Electricity Coordinating Council/North American Electric Reliability Corporation operating criteria are not included for consistency with the services under contract to CVP Power Preference Customers.
- **Capacity/Resource Adequacy** – Amount of electric power for which a generating unit, generating station, or other electrical apparatus is rated either by the user or manufacturer. Capacity is valuable because of the need for sufficient machine capability to meet the peak electrical load hour during the hottest summer day. Resource Adequacy is a mandatory planning and procurement process to ensure resources are secured by Load Serving Entities to meet the ISO's forecast system, local, and flexible capacity needs.

The PLEXOS Model is used to estimate energy and ancillary service benefits. The PLEXOS model was selected for use in the CVP CAS based on a variety of factors including (but not limited to) its relative ability to accurately simulate different future scenarios given specific constraints, as well as its widespread usage in the power industry. It simulates power markets by optimizing energy, ancillary services, generation, and transmission utilization subject to physical and operational constraints. Two simulations were run to determine CVP power benefits. The first covered the entire Western Electricity Coordinating Council's (WECC) system to generate projected pricing and ancillary services data, including CVP facilities. A subsequent simulation optimized the dispatch of the CVP facilities using the projected pricing and ancillary services data generated in the first simulation. The simulated generation data is a 2024 baseline year used to calculate annual benefits across the period of analysis used in the study. The PLEXOS model used output data from LTGEN (i.e. total monthly generation) as inputs that were incorporated into the simulation to estimate benefits. Please refer to the *Economic Benefits Analysis Appendix* for a more detailed description of the model and reasons for its usage to estimate economic benefits for the CVP CAS.

Capacity/resource adequacy is estimated outside of the PLEXOS model. Although WAPA only markets two non-firm variable products, energy and ancillary services, some of WAPA's customers claim their CVP allocation for capacity purposes, thus avoiding certain CAISO costs related to short-term operational requirements to ensure grid reliability. These grid reliability requirements are referred to as resource adequacy. Using the CAISO market value for resource adequacy is considered to be representative of the actual value that WAPA preference power customers realize when claiming CVP capacity benefits. A CAISO market-based price for resource adequacy is used as a proxy for that value now and for the foreseeable future, since its value is calibrated to the amount of capacity present in the existing and predicted future system.

7.7.1.1 LTGEN and PLEXOS Adjustments for Flood Bypass

After the PLEXOS CVP benefit simulation was completed, it was determined that the version of the LTGEN model used to develop inputs to the PLEXOS model overestimated generation when compared to the historical generation levels due to underestimation of generator flood bypasses. A methodology was developed to isolate the missed flood bypass from LTGEN to adjust the power

benefits estimated by PLEXOS. This post-process adjustment of LTGEN and PLEXOS results was performed for the energy component of the power benefits in the CAS. An analysis was performed to map the historical record to the respective CalSim 2 data input to LTGEN and the energy benefits were reduced by water year type. Further explanation of this analysis can be found in the *Economic Benefits Analysis Appendix*.

Table 7-5 displays the resulting energy benefits that include the post-process adjustment to the PLEXOS results that are informed by the LTGEN analysis.

7.7.1.2 Treatment of San Luis Unit Pump-Generating Unit

The San Luis Unit is part of both the Federal CVP and the California SWP. Authorized by the San Luis Act in June 1960 (Public Law 86-488), it is jointly operated by Reclamation and the DWR primarily for the purpose of water supply. Two features of the San Luis Unit are pump-generating (“pump-gen”) plants – the O’Neill Pump-Generating Plant and the William R. Gianelli Pump-Generating Plant. These two facilities pump water into the O’Neill Forebay and San Luis Reservoir respectively, for off-stream storage. During water operations, water is either released for delivery from O’Neill Forebay into the Delta Mendota Canal or from San Luis Reservoir back through the pump-turbines of both facilities to generate reclaimed energy. The reclaimed energy helps offset part, but not all of the cost of pumping water into San Luis Reservoir.

Because the energy required to pump water into the reservoir is greater than the energy generated when the water is released for delivery, all of the energy generated by these pump-gen plants is considered to be an offset to the cost of pumping. Accordingly, the total cost of both pump-gen plants, as well as the value of the energy generated by them, was assigned to the water supply purpose. As a result, it was necessary to adjust (reduce) the energy power benefits modeled in PLEXOS by the value of generation produced by the pump-gen plants and add that value to the water supply benefits. This adjustment factor (0.975) was multiplied by the estimated annual energy generation benefits prior to calculating the discounted net present value over the planning horizon. The adjustment factor did not affect the benefits attributed to ancillary services or resource adequacy.

7.7.2 Power Benefits – Results

The estimated energy and ancillary service CVP power benefits are shown in Table 7-5, and estimated total hydropower benefits are shown in Table 7-6. As discussed above, the benefit values used in the CAS for the power purpose are the values of CVP energy generated without the San Luis Unit. The value of energy generated by the O’Neill and Gianelli pump-generating plants is subtracted from the estimated hydropower benefit and added to the estimated water supply benefit. The energy generation benefits reported in Table 7-5 are subject to the adjustment described in the previous section. In addition (shown in Table 7-6), the estimated capacity/resource adequacy value is added and total hydropower benefits (without San Luis Unit) and other benefits are estimated to be nearly \$193.9 million annually.

Table 7-5. Estimated Annual CVP Hydropower Benefits, by Water Year Type (\$millions)

Benefit Component	Wet	Above Normal	Below Normal	Dry	Critical	Weighted Average
Energy	\$228.1	\$201.5	\$170.6	\$155.1	\$115.4	\$181.1
Ancillary Services	\$0.7	\$0.5	\$0.4	\$0.4	\$0.5	\$0.5
Total	\$228.7	\$202.1	\$171.0	\$155.5	\$116.0	\$181.6

Table 7-6. Estimated Annual Total CVP Hydropower Benefits (\$millions)

CVP Hydropower Energy and Ancillary Service Benefit (with San Luis Unit)	\$181.6
Less: San Luis Unit Energy Benefit (Water Supply Cost Saving Benefit)	\$4.5
CVP Hydropower Energy and Ancillary Service Benefit	\$177.1
Plus: CVP Capacity (Resource Adequacy) Benefit	\$16.8
Total Estimated Annual CVP Hydropower Benefit	\$193.9

For the CAS, annual power benefits are discounted over the 100-year period of analysis using a 3.25 percent interest rate. The present value of CVP power benefits is approximately \$5.7 billion.

7.8 Summary of Economic Benefits

For the CAS, all of the CVP economic benefits are based on a 100-year prospective analysis as discussed in more detail in Chapter 5, *Key Concepts and Assumptions*, of this report. All results are discounted to a present value in 2013 dollars using 3.25 percent interest rate. Table 7-7 displays the total benefits for each of the purposes analyzed. These values are used as inputs to the SCRB analysis presented in Chapter 10, *Cost Allocation Results (Period 2)*.

Table 7-7. Summary of Estimated Economic Benefits of the CVP (2013 Dollars) (\$millions)

Type of Benefit (Purpose)	Average Annual Benefit	Present Value Benefit (100 Years)
Water Supply	\$769.2	\$22,702.5
<i>Irrigation</i>	\$544.7	\$16,076.1
<i>M&I</i>	\$220.0	\$6,492.7
<i>San Luis Unit Pump-Gen</i>	\$4.5	\$133.7
Water Quality	\$49.4	\$1,457.6
Flood Control	\$1,287.3	\$37,992.2
Hydropower	\$193.9	\$5,723.6

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Chapter 8. Single-Purpose Alternatives

This chapter presents an overview of the development of the single-purpose alternatives required for the SCRB analysis. The cost estimates associated with the SPAs are presented and described in Chapter 9, *Cost Estimates* (see Table 9-4). Additional facility-level information supporting the SPA cost analysis is presented in the *Cost Estimates Summary Table Appendix*.

8.1 Conceptual Approach to Single-Purpose Alternative Analyses

The SCRB analysis requires SPA costs for each authorized project purpose that will share in joint project costs. In the context of the CAS, these purposes are water supply, water quality, flood control, and power. The SPA cost is the cost of the most likely federally financed alternative that provides the same level of benefits to a particular purpose as the existing project. As explained in Chapter 4, *Cost Allocation Methodology*, the lesser of the economic benefits or SPA costs constitute the justifiable expenditure for each purpose in the SCRB process. The focus of this chapter is the methodology for development of the SPAs for the water supply, water quality, flood control, and power purposes. SPA cost estimates are not required for the recreation, fish and wildlife enhancement, and navigation purposes because they do not share in joint costs.

In order to formulate the SPA for each project purpose, existing CVP facilities were evaluated to determine if they were required to provide the benefits for that purpose, and if so, whether the facility would need to be modified for that purpose only. The exception to this process is the power SPA, which is based on a thermal power plant that provides power benefits equivalent to the existing project rather than existing CVP hydropower facilities. Once the features (and appropriate scale of features) are identified for each SPA, cost estimates are developed. The SPA cost for each respective purpose is the sum of construction, IDC, and OM&R¹⁹ costs for all features that support that purpose (see Chapter 9, *Cost Estimates*).

8.1.1 Single-Purpose Facilities

The cost of each single-purpose facility is included in the respective SPA that it serves. For example, a single-purpose water supply canal is included in the water supply SPA only. Because single-purpose facilities do not support other purposes by definition, they do not need to be re-sized and are included at full scale in the applicable SPA. The individual single-purpose facilities included in each SPA are presented in the SPA descriptions below.

8.1.2 Multipurpose Facilities

Because multipurpose facilities serve more than one purpose, they had to be hypothetically re-sized, as necessary, to provide only the benefits of the specific purpose being evaluated. In other words, the SPA sizing analysis calculated operations for multipurpose facilities as if the one purpose being evaluated was its sole function. For the CAS, a small group of multipurpose facilities (primarily dams

¹⁹ OM&R costs include “soft” costs that are attributable to the CVP as a whole rather than a specific project feature; soft costs were added to all SPAs.

and reservoirs) are re-sized for the water supply, water quality, and flood control SPAs using CalSim 2 hydrology modeling described in Chapter 6, *Hydrological Modeling*, and the *Hydrological Modeling Appendix* to this report.

Other multipurpose facilities were not re-sized for any given SPA. In other words, the full size (and cost) of the facility is required to provide the benefits for any given SPA. Other multipurpose facilities that could not be resized that are included as part of all SPAs include:

- Centralized Water & Power System Control
- Spring Creek Debris Dam and Reservoir
- CVP Radio Network
- Clear Creek Tunnel
- Telemetry Equipment
- Permanent Operating Facilities – Folsom
- Permanent Operating Facilities – Trinity
- Keswick-Carr Microwave System
- Radio Stream Gauges
- Permanent Operating Facilities – Shasta
- Whiskeytown Dam & Reservoir
- Radio Rain Gauges

8.1.3 Mitigation

In addition, some facilities (or portions of facilities) in the CVP are considered mitigation costs. In theory, mitigation activities are addressing adverse impacts of the CVP as a whole so it is not appropriate to assign mitigation to any single purpose. Instead, for the purpose of estimating SPA costs, mitigation costs are included, in total, as part of each SPA. Mitigation activities that are included as part of all SPAs include:

- Tracy Fish Collection Facility – Replace Transformers
- Red Bluff Diversion Dam – Mitigation
- Tehama-Colusa Canal – Mitigation
- San Luis Unit Fish and Wildlife Facility
- Trinity River Restoration Project

8.1.4 Activities with Direct Assigned Costs

Direct assigned costs are not included in the SPAs developed for each project purpose. Direct assigned costs do not contribute towards CVP project benefits and would not be required to operate the CVP if it were operated for any single purpose.

8.1.5 Summary of SPA Approach

In summary, the total cost of each SPA includes the estimated cost of the re-sized multipurpose reservoirs (if applicable) plus the cost of non-diminishable multipurpose facilities, all single-purpose facilities for each respective purpose, and mitigation costs. The SPAs exclude direct assigned costs. An overview of each respective SPA is presented below.

8.2 Water Supply SPA

8.2.1 Multipurpose Facility Resizing

Conceptually, the hydrology analysis for the water supply SPA is based on reservoir sizing as if the CVP was operated solely for the purpose of water supply. Because of geographical considerations in the CVP, single-reservoir scenarios had limited applicability because one reservoir typically could not provide water to the entire CVP service area. For this reason, multiple reservoirs are included in the water supply SPA.

The SPA for water supply is based, in part, on reservoir storage required to provide CVP water for irrigation, M&I, and wildlife refuge deliveries, and meeting CVPIA B2 requirements. Five multipurpose CVP reservoirs served the water supply purpose: Friant, New Melones, Trinity, Shasta, and Folsom. Friant provides for direct diversions into the Madera Canal and Friant Kern Canal. New Melones provides water for CVP contracts with Stockton East Water District and Central San Joaquin Water District, along with settlement obligations to Oakdale Irrigation District and South San Joaquin Irrigation District. Trinity, Shasta, and Folsom collectively provide water for CVP water users in the Sacramento and American River basins and exports at Jones Pumping Plant. The hydrology sizing model described in the *Hydrological Modeling Appendix* is used in determining what size each of these facilities had to be so that only the water supply purpose of the CVP was served. In addition, costs associated solely with B2 actions (79 TAF) are included in the water supply purpose SPA.²⁰ See Chapter 6 *Hydrological Modeling* (Table 6-2) for the multipurpose reservoir sizes included as part of the Water Supply SPA.

8.2.2 Multipurpose Facilities – Other

Other multipurpose facilities that could not be resized that are included as part of the Water Supply SPA are presented above in Section 8.1.2.

²⁰ Historically, the treatment of B2-related costs has not been included in the water supply purpose for the purpose of sub-allocating costs. Several options were considered for the CAS and it was decided that costs associated solely with B2 actions (79 TAF) would be included in the water supply purpose SPA.

8.2.3 Single-Purpose Facilities

Single-purpose facilities that are included as part of the Water Supply SPA include:

- Folsom South Canal
- Permanent Operation Facilities – Folsom South
- Folsom Dam Pumping Plant – Enhancement
- Folsom Pumps – 4160 Feeder Cable Replacement
- Clayton Canal & Pumping Plant
- Columbia Mowry Pumping Plant
- Contra Costa Canal
- Contra Costa Canal System – Deferred Maintenance
- Contra Costa Pumping Plant
- Contra Loma Dam & Reservoir
- Delta Cross Channel
- Delta-Mendota Canal
- Delta-Mendota Intake Channel
- Delta-Mendota Canal California Aqueduct Intertie
- Martinez Dam & Reservoir
- Permanent Operating Facilities – Tracy
- Shortcut Pipeline
- Tracy Pumping Plant
- Ygnacio Canal & Pumping Plant
- Friant-Kern Canal
- Madera Canal
- 4-M Water District
- Colusa County Water District Relift Pumping Plant
- Colusa Service Area – Cortina
- Colusa Service Area – Davis
- Colusa Service Area – Other
- Corning Canal
- Corning Canal Pumping Plant
- Corning Canal Relift Pumping Plant
- Glenn Valley Water District Relift Pumping Plant
- Dunnigan Water District Relift Pumping Plant
- Glide Irrigation District Relift Pumping Plant
- Kanawha Water District Relift Pumping Plant
- La Grande Water District
- Orland-Artois Water District Relift Pumping Plant
- Permanent Operating Facilities – Arbuckle
- Permanent Operating Facilities – Red Bluff
- Permanent Operating Facilities – Red Bluff Suboffice
- Permanent Operating Facilities – Willows
- Permanent Operating Facilities – Willows Suboffice
- Pilot Research Pumping Plant
- Proberta Water District Relift Pumping Plant
- Red Bluff Diversion Dam
- Tehama-Colusa Canal
- Westside Water District Relift Pumping Plant

- Arroyo Pasajero
- B.F. Sisk San Luis Dam & Reservoir
- Dos Amigos Pumping Plant
- Dos Amigos Switchyard
- Little Panoche Creek Detention Dam & Reservoir
- Los Banos Creek Detention Dam & Reservoir
- O'Neill Dam, Forebay & Wasteway
- Permanent Operating Facilities – State/Federal
- San Luis Canal
- San Luis Canal Turnouts
- San Luis Drain
- San Luis Switchyard
- William R. Gianelli Pumping-Generating Plant
- Coalinga Canal
- Los Banos Substation
- O'Neill Pumping Plant
- O'Neill Pumping Plant Intake Channel
- O'Neill Switchyard Station
- Permanent Operating Facilities – San Luis
- Pleasant Valley Pumping Plant
- San Luis Relift Pumping Plant – Pleasant Valley Water District
- San Luis Relift Pumping Plant – Westlands Water District
- Toyon Pipeline
- Clear Creek Conveyance
- Cow Creek Conveyance System
- Wintu Pumping Plant

8.2.4 Mitigation Activities

Mitigation activities that are included as part of the Water Supply SPA are presented above in Section 8.1.3.

8.3 Water Quality SPA

8.3.1 Multipurpose Facility Resizing

The Period 2 allocation treats the costs of meeting water quality requirements associated with D-1485 as joint costs assigned to all project purposes. Actions for salinity control and actions for compliance with State water quality standards exceeding D-1485 are assigned to the water quality purpose as non-reimbursable, consistent with the COA. The SPA reservoir storage required to satisfy water quality standards of D-1641 over those of D-1485 is analyzed by calculating the SPA for satisfying D-1641 and the SPA for satisfying D-1485 and then taking the difference between the two to determine the incremental storage cost. This difference in cost is used as the SPA cost estimate for the water quality purpose.

The Delta outflow that is required to meet water quality standards in the Delta depends on export level. In order to correctly identify the increment of SPA storage required to satisfy the D-1641 water quality standards compared to those in D-1485, the increment had to be defined given the

same level of export and delivery. See Chapter 6 *Hydrological Modeling* (Table 6-4) for the Water Quality SPA storage sizing requirements. New Melones is not included because the difference in cost of New Melones to meet D-1485 versus D-1641 is negligible. Friant did not serve a water quality purpose since water is not released from the reservoir to meet water quality standards under either D-1485 or D-1641.

8.3.2 Multipurpose Facilities – Other

Other multipurpose facilities that could not be resized that are included as part of the Water Quality SPA are listed above in Section 8.1.2.

8.3.3 Single-Purpose Facilities

There are no single-purpose facilities that are included as part of the Water Quality SPA.

8.3.4 Mitigation Activities

Mitigation activities that are included as part of the Water Quality SPA are presented above in Section 8.1.3.

8.4 Flood Control SPA

8.4.1 Multipurpose Facility Resizing

The CVP storage facilities operated for flood control are Trinity, Shasta, Folsom, New Melones, and Friant. All of these facilities except Trinity included flood control in their authorizing legislation. Trinity provides protection to downstream assets under guidelines set by the Trinity River Mainstem Fishery Restoration Record of Decision (ROD) and therefore is included as part of the flood control SPA.

Flood control rules limit the volume of water that may occupy space in a reservoir, mandating that a certain amount of empty space be maintained in order to accommodate anticipated seasonal runoff. The flood control rule method for determining the single-purpose size of a reservoir selects the largest value for required flood space in a reservoir from the historical flood control diagrams and adds this value to the minimum operating storage level in the reservoir, or dead pool, to calculate the SPA size for each reservoir. SPA sizes for the four flood control reservoirs are shown in Chapter 6 *Hydrological Modeling* (Table 6-6).

8.4.2 Multipurpose Facilities – Other

Other multipurpose facilities that could not be resized that are included as part of the Flood Control SPA are listed above in Section 8.1.2.

8.4.3 Single-Purpose Facilities

There are no single-purpose facilities that are included as part of the Flood Control SPA.

8.4.4 Mitigation Activities

Mitigation activities that are included as part of the Flood Control SPA are presented above in Section 8.1.3.

8.5 Power SPA

8.5.1 Power SPA – Thermal Facility

Under past policy and practice, Reclamation has typically used a hydropower-based single-purpose power alternative when conducting cost allocation studies. However, a nuclear power single-purpose power alternative has been used in prior CVP cost allocation studies based on the premise that the CVP authorizing legislation (50 Stat. 850) authorized Reclamation to construct a steam generator plant.

For the CVP Final CAS, a thermal (natural gas) power plant was determined as the most likely alternative constructed by the Federal government in the absence of CVP hydropower plants.²¹ Past precedent and authorizing CVP legislation has given Reclamation the discretion to use a thermal-based SPA for the power purpose of the CVP. The thermal-based SPA is configured and sized to incorporate existing CVP operational limitations and constraints, including the required associated transmission facilities needed to serve power customers.

Consequently, the thermal-based SPA reflected the current level of benefits associated with power generation and associated ancillary services provided by the CVP. The thermal power SPA is sized to generate enough energy to provide not only the amount of energy used by project beneficiaries but to account for system losses as well. The SPA cost for the thermal power facility include all costs, including design and construction, ownership costs, emission reduction credits, environmental mitigation, fuel (natural gas) costs, and other costs. The CVP power generation is estimated based on CalSim 2 and LTGEN modeling (see Section 6.4).

The CVP produces (at plant) an average of about 4,828.74 GWh/year. The capacity of a thermal SPA power plant needed to produce the same amount of energy was estimated to be 1,190 MW. The type of thermal plant used to estimate facility capitalized costs was a 500 MW combined cycle plant without duct-firing. The heat rate used to estimate SPA costs was 6,750 Btu/kWh (British thermal units/kilowatt hours). Life-cycle costs are based on a period of 100 years using an interest rate of 3.25 percent and assuming a 40-year lifespan of a typical plant. The cost of fuel used for the analysis was \$4.24/MMBtu (million British thermal units) for natural gas.

8.5.2 Multipurpose Facilities

There are no multipurpose facilities included as part of the Power SPA.

²¹ Because the Power SPA does not involve re-operation of existing CVP hydropower facilities, no hydrology analysis was required.

8.5.3 Single-Purpose Facilities

The only single-purpose facilities that are included as part of the Power SPA are select transmission facilities owned and operated by WAPA.

8.5.4 Mitigation Activities

Mitigation activities that are included as part of the Power SPA are presented above in Section 8.1.3.

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Chapter 9. Cost Estimates

This chapter outlines the cost estimating methods developed at an appraisal level for the CVP CAS and presents the cost estimates used as inputs to the SCRB analysis. More detailed cost estimate results are presented in the *Cost Estimates Summary Tables Appendix*.

9.1 Cost Estimating Overview

The SCRB methodology requires several sets of cost estimate inputs. These include total project costs, as well as separable costs and SPA costs by authorized purpose. The cost analysis is conducted at the facility level to account for the complexity and quantity for all of the CVP features. The facility-level analysis also facilitates the water ratesetting process described in Chapter 12, *Implementation of the Final Cost Allocation*.

The SCRB methodology requires separate cost estimates for (1) construction, (2) IDC, and (3) OM&R of project facilities over the 100-year period. The sum of these three cost components is considered the total cost of any given facility. Although these cost components are tracked separately, the calculations within the SCRB process are based on total costs of all three cost components over a 100-year period. The approach used to estimate each type of cost varies as explained below.

SCRB also requires that all cost estimates be in constant price level to allow a consistent comparison. As a result, all cost estimates are indexed to the base year 2013 (see Section 5.3). The nominal (unindexed) cost of facilities are tracked in order to reconcile to actual costs in the CVP financial records.

There are several fundamental tenets underlying the cost estimating used for the CAS.

- Costs are estimated at an appraisal level.
- Cost indexing is required to adjust price levels to the CAS base year (2013).
- Estimated facility costs are based on a wide range of data sources, including Reclamation financial reports, historical construction pricing, material quantities from completion reports, and contract administration documentation.

9.1.1 Appraisal-Level Analysis

Reclamation uses several different levels of detail when estimating costs in the context of project planning and development, including preliminary, appraisal, and feasibility levels within the planning phase of Reclamation's design process (Reclamation 2007). Of these approaches, appraisal and feasibility levels have been deemed suitable for the purpose of cost allocation (Reclamation 2013b). Appraisal level are used due to the number of facilities being considered in this CAS. A feasibility-level analysis for the CAS would require further refinement of the cost estimates, including the need for detailed estimates created during the design, solicitation, and construction stages of each facility.

This would have significantly increased the complexity, cost, and reproducibility of the CAS cost estimates.

The appraisal-level analysis is most pertinent in the context of facility re-sizing, which is integral to the SPA and separable cost analysis required for SCRB. In an appraisal-level analysis, a minimum of roughly 85 percent of the total costs to be estimated should be identified. For the CAS, costs are assigned to the identified line items. The remaining 15 percent of costs are allocated to unlisted items or contingencies for the facilities that required re-sizing. Historical documentation of the costs to construct each of the facilities are used to establish the appropriate number of line items.

9.1.2 Cost Indexing

The CVP has been under construction for over 70 years; therefore the plant-in-service costs²² in the financial statements have widely varying cost bases. In order to compare costs of the CVP that occur at different points in time, nominal costs of project facilities are converted to a common price level corresponding to the CAS base year of 2013 using the Building Costs Index (BCI).

9.2 Cost Categories

9.2.1 Construction Costs

Construction costs are the costs of labor, land, materials, and financing to plan, design, and construct a project facility or feature for the purpose of providing new or additional benefits. Construction costs of a project feature include both contract costs and non-contract costs, such as direct labor, direct materials, and indirect costs through the point the facility is placed into plant-in-service. Construction costs exclude IDC.²³ Project construction costs are estimated using information from several different data sources, mainly existing financial records and contract administration records.

9.2.2 Interest During Construction Costs

IDC represents the cost to finance the construction of projects.²⁴ IDC is reimbursable by certain project purposes (or beneficiaries), namely M&I and commercial power. As such, only those facilities that serve M&I and commercial power include IDC for repayment in Schedule 1 of the CVP financial statements. For example, facilities that solely serve irrigation do not include IDC in Schedule 1. To ensure that all facilities are evaluated consistently in the SCRB analysis, estimates for IDC are required for each facility based on the total cost of the facility.

²² In order to index nominal costs to the base year, the date when each project facility began to provide beneficial use is documented. This is referred to as the plant-in-service date.

²³ Plant-in-service values presented in Schedule 1 of the CVP financial statements include both construction costs and interest during construction, which required that IDC be deducted from the plant-in-service values to derive construction-only costs.

²⁴ Specifically, IDC represents interest accumulated during the construction period. This interest is added to the cost of the long-term asset so that the interest is not recognized in the current period as interest expense. Instead, the interest becomes a fixed asset and is included in the depreciation of the long-term asset.

To ensure that IDC is not double counted in certain facilities, actual IDC is first deducted from facilities that have it recorded in the 2013 Financial Statements, then IDC is estimated for all facilities using annual compound interest. For consistency with Reclamation Policy, IDC is not included for facilities constructed prior to 1955 and simple interest calculations are used for construction that occurred between 1955 and 1982. The CAS discount rate of 3.25 percent is used in calculating estimated IDC.

9.2.3 Operation, Maintenance, and Replacement Costs

OM&R cost estimates are required for each facility for the SCRB analysis. Due to the large number of facilities and data gaps for individual facilities, the OM&R cost analysis is conducted based on representative facility types (or categories). The six categories of facilities included (1) canals, (2) dams and reservoirs with subcategories of embankment and concrete dams, (3) pumping plants and power plants, (4) switchyards, (5) general project soft costs, and (6) WAPA facilities.

Annual OM&R expenses are estimated for each representative facility using a two-step process. The first step determines the estimated O&M cost by representative facility. This is accomplished by averaging indexed O&M expenditures for the most recent 10 years of reported costs to arrive at an average annual value. Reclamation's O&M index is used for this purpose (Reclamation 2017). The second step determines the estimated replacement costs for a representative facility in each O&M facility category. The estimates exclude overhead costs that are not attributable to any given facility or purpose. Overhead costs are treated as joint costs of the CVP.

Determining replacement costs is accomplished by estimating the cost and timing of replacement for each item. The expected occurrence cycles are determined from the Reclamation/WAPA Replacement Book (2006). Large scale rehabilitation, maintenance, replacement, and extraordinary maintenance (RAX) activities occur on a predictable schedule. Subsequently, for facilities in each category, estimated replacement costs are calculated by pro-rating replacement costs for the representative facility based on the relative magnitude of construction costs of the representative facility compared to all facilities in the same category. The results from steps one (O&M) and two (replacements) are added together to produce each facility's total OM&R cost. Total OM&R cost estimates are capitalized over the 100-year period of analysis using the project interest rate of 3.25 percent.

9.3 Cost Estimating Methodology

Cost estimates for total facility costs, separable costs, and SPA costs are required from the SCRB analysis. The methods used to develop these cost estimates vary by type of facility. Each facility in the CVP is characterized as either single-purpose or multipurpose. Single-purpose facilities are considered separable to the purpose they serve. For example, the total cost of a single-purpose water supply canal is a separable cost to the water supply purpose. Single-purpose facilities are also assigned in their entirety to each applicable SPA. The cost estimating process for multipurpose facilities requires the hypothetical re-sizing of the facility for each authorized purpose in the separable cost and SPA cost analyses.

9.3.1 Costs Used in the SCRB Process

Total Facility Costs

Total project costs are estimated for all CAS facilities. Total project costs serve as the starting point for facility re-sizing efforts described below. Separate cost estimates are developed for construction, IDC, and OM&R, which together represent total costs. The plant-in-service date of each facility is used to index nominal costs to the base year. Plant additions and RAX costs that occurred after the plant-in-service date are considered construction costs and indexed to the base year from the year in which they occur.

Separable Cost Analysis

Separable costs are project costs that are attributable to a single purpose. Separable costs for each authorized purpose are calculated as the difference between total costs of a multipurpose project and the cost of the project with that purpose excluded.

The cost of single-purpose facilities is separable to the purpose those facilities serve. The separable costs of a multipurpose facility's costs are evaluated by determining if the multipurpose facility can be re-sized as a result of eliminating each authorized purpose from the multipurpose project. Multipurpose facilities that cannot be re-sized by removing any authorized purpose are considered to be non-diminishable. Non-diminishable facilities are treated as joint costs in the SCRB analysis. Multipurpose facilities that could be re-sized based on the removal of authorized purposes are defined as diminishable. Friant Dam and Los Banos Creek Detention Dam are the only multipurpose dams considered diminishable, and which do not include a power purpose. As a result, these dams could be re-sized in the separable cost analysis. It was determined that these facilities should be re-sized and would not incur joint costs. Total costs of Friant Dam are distributed between water supply (58.56 percent) and flood control (41.44 percent), while Los Banos Creek Detention Dam costs are distributed to water supply (24.06 percent), flood control (68.66 percent), and recreation (7.28 percent).

Single-Purpose Alternative Cost Analysis

The SPA is the least cost alternative which would likely be built as a single-purpose Federal project, and that would provide the same benefit to each purpose individually as the multipurpose project provides. For the purpose of the CAS, the following four SPAs are developed: (1) water supply, (2) flood control, (3) water quality, and (4) power. All of the SPAs except for power are based on re-sizing of existing CVP facilities. The power SPA is based on a thermal natural gas-powered facility tying into the existing CVP power transmission grid. The estimation of costs associated with the thermal power SPA is discussed below.

With exception of the power SPA, all single-purpose facilities are assigned to the applicable SPA they serve. Non-diminishable, multipurpose facilities that could not be attributed to any one purpose are included at full scale in all SPA costs. Each diminishable multipurpose facility is re-sized to serve each respective authorized purpose of the CVP.

Multipurpose Facilities – Diminishable

The SCRB process requires that existing facilities be re-sized, if possible, to calculate costs of the SPA for each project purpose and to estimate separable costs of each purpose. Approximately 30 facilities on the CAS Facility List are treated as multipurpose features of the CVP. The multipurpose facilities identified as diminishable facilities are re-sized and corresponding cost estimates are developed. Table 9-1 presents the diminishable facilities considered and treatment in the CAS.

Developing cost estimates for re-sized facilities involved multiple steps. The first step documents the costs required to construct the facility, which identifies the construction contracts and their subcomponents for each facility throughout the facility's life and use of Reclamation's financial reports. Next, estimating the new height of the dam and reservoir was determined using the water volumes needed to provide the same level of benefits for each purpose. This would help determine the volume, square footage, and change of each major cost driver (MCD) (i.e., concrete and other large expenses) from the original construction cost.

Cost estimations are generated by identifying and adjusting the MCD, using AutoCAD and LIDAR surveying models, developing cost curves, and developing engineering and construction inspecting-based assumptions on the re-sized quantities to arrive at total estimated costs. The MCDs for each contract are separated by identifying the line items that produced at least 85 percent of the costs.

Cost curves based on the MCDs for each facility allows for re-sizing of the facilities while accounting for unit cost variations due to economies of scale and regional influences. The proportional cost is determined by comparing the original facility to the scaled facility.

All of the diminishable multipurpose facilities are dams that store water and include power facilities, except for Friant Dam and Los Banos Creek Detention Dam. On further evaluation, for multipurpose facilities with a power purpose, it was found that despite these facilities' original designations as diminishable, it was determined that the facility sizes would not vary in the multipurpose without cost analysis. In other words, eliminating any purpose from these multipurpose facilities would not result in a re-sized facility because the facility would still need to provide the benefits of all remaining purposes. Therefore, regardless of the purpose removed, the facility size could not be diminished without affecting the benefits of one or more of the remaining purposes. Accordingly, there are no separable costs of these facilities.

Additional consideration was required for determining separable costs to the power purpose with respect to specific power features (as opposed to facility sizing discussed below). Power components of multipurpose facilities (primarily power plants and switchyards) are considered to be bolt-on accessories and separable to the power purpose. An adjustment to the multipurpose facility dam cost was considered to account for the material used to replace the bolt-on accessories, and it was determined any cost change would be less than unlisted items and contingencies for the identified dams. Consequently, the cost of removing the power purpose from these multipurpose dams was determined to be negligible. This approach resulted in no separable costs assigned to the power purpose from the multipurpose dams in the SCRB analysis. The only separable costs of the power purpose were the accumulated cost of single-purpose power facilities.

Table 9-1. Diminishable Multipurpose Facilities

Diminishable Facilities	Treatment in CAS Analysis
Shasta Dam	For SPA analysis, these facilities were re-sized based on hydrology. For separable costs, the power purpose necessitated the same size dam.
Folsom Dam	For SPA analysis, these facilities were re-sized based on hydrology. For separable costs, the power purpose necessitated the same size dam.
New Melones Dam	For SPA analysis, these facilities were re-sized based on hydrology. For separable costs, the power purpose necessitated the same size dam.
Trinity Dam	For SPA analysis, these facilities were re-sized based on hydrology. For separable costs, the power purpose necessitated the same size dam.
Friant Dam and Permanent Operating Facilities	For SPA analysis, this facility was re-sized based on hydrology. Because Friant only serves two project purposes, water supply and flood control, all Friant Dam and reservoir costs were allocated as separable costs to these two functions.
Nimbus Dam	For the SPA analysis, this facility was re-sized. There are no separable costs to water supply. There are separable costs to power, which consists of the power generating equipment.
Los Banos Creek Detention Dam	For the SPA analysis, this facility was re-sized based on the separable cost factors. Because Los Banos Dam only serves two project purposes, water supply and flood control, all Los Banos Dam and reservoir costs were allocated as separable costs to these two functions.

Multipurpose Facilities – Non-Diminishable

Non-diminishable facilities are facilities for which the cost of the facility does not change if any authorized purpose is removed from the project. The full cost of non-diminishable facilities is included in each SPA because there are no costs considered separable to any one purpose. Table 9-2 provides the list of non-diminishable facilities and summarizes the reasons for the determinations.

Table 9-2. Non-Diminishable Multipurpose Facilities

Non-Diminishable Facilities	Reason for Non-Diminishable Designation¹
CVP radio rain gauges	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.
Shasta radio rain gauges	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.
Trinity radio rain gauges	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.
Shasta radio stream gauges	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.

Non-Diminishable Facilities	Reason for Non-Diminishable Designation¹
Trinity radio stream gauges	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.
CVP radio network	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.
CVP telemetering equipment	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.
Centralized water and power systems control	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.
Keswick-Carr Microwave Systems	Provided a function for the entire CVP and the size remained relatively the same no matter the size of the CVP.
Shasta permanent operating facilities	Provided a function for the named facility and the size remained relatively the same regardless of the purpose
Union Hills Reservoir ¹	Land obtained for the facility would not change regardless of size or purpose
Clear Creek Tunnel	Tunnel costs would not significantly change if the tunnel size was reduced because of the custom equipment and complexity of the construction.
Spring Creek Debris Dam and Reservoir	The dam was originally sized and constructed to hold back contaminated water from upstream mining and release as needed to mitigate stream poll. None of the purposes served by this facility could be altered, and therefore the facility could not be re-sized, resulting the total cost of this facility to be joint costs.
Whiskeytown Dam and Reservoir	Costs were not separable to a single purpose due to operational requirements, unclear required volumes of water for specific purposes, and could not be built smaller for water supply, power, or flood control individually based on available data.

1. Although a non-diminishable facility, Folsom Sly Park/Union Hills Reservoir is not included in any SPAs because it does not support the benefits of any project purpose.

9.3.2 Mitigation Costs

Mitigation costs are treated as joint project costs in the CVP CAS. CVPIA facility costs are excluded from the CAS and are being handled through a separate process. For more information on mitigation costs, refer to Section 5.11.

9.3.3 Direct Assigned Costs

Direct assigned costs are costs that have been identified, legislatively or by agreement, as having a clear direction regarding repayment. The costs of direct assigned features are excluded from the SCRB process. Cost estimates for project facilities with direct assigned costs are adjusted to remove direct assigned costs. Generally, the total cost of each project facility is pro-rated based on the proportion of unindexed facility cost that is direct assigned relative to total project cost. Direct

assigned costs are not treated as separable costs to any purpose or included in any of the SPA cost estimates. For more information on direct assigned costs, refer to Section 3.3.

9.4 CAS Cost Estimates

As described above, the cost estimating process for the CAS resulted in three sets of indexed cost estimates: (1) total facility costs, (2) cost estimates for each respective SPA (i.e., water supply, flood control, water quality, and power), and (3) cost estimates of the multipurpose project with each of the individual purposes removed (i.e., the multipurpose without purpose project estimates). For each set of costs, all three cost components are estimated, namely construction, IDC, and OM&R, which are used as inputs to the SCRB analysis.

As shown in Table 9-3, the total cost of the CVP that is used in the SCRB process is approximately \$17.0 billion (2013 dollars), which is comprised of construction costs (\$11.2 billion), IDC (\$476.9 million), and the present value of annual OM&R costs (\$5.3 billion). These cost estimates exclude direct assigned costs excluded from the SCRB process.

Table 9-3 also shows the estimate of separable costs by purpose. Separable costs are computed as the difference of total project cost and the omitted-purpose cost for each purpose. Accounting for all three cost components, the total separable costs attributed to each purpose is: water supply (\$6.1 billion), power (\$4.6 billion), flood control (\$171.4 million), recreation (\$15.1 million), water quality (\$0), fish and wildlife enhancement (\$0), and navigation (\$0).

Table 9-3. SCRB Total and Separable Cost Estimates (2013 Dollars)

Purpose	Total Cost	Multipurpose Without Cost	Separable Costs
Construction	\$11,183,353,145		
Water Supply		\$6,727,205,449	\$4,456,147,695
Power		\$9,149,317,479	\$2,034,035,666
Flood Control		\$11,033,241,465	\$150,111,679
Recreation		\$11,169,443,333	\$13,909,811
Water Quality		\$11,183,353,145	\$0
Fish and Wildlife Enhancement		\$11,183,353,145	\$0
Navigation		\$11,183,353,145	\$0

Purpose	Total Cost	Multipurpose Without Cost	Separable Costs
IDC	\$476,904,929		
Water Supply		\$303,477,679	\$173,427,250
Power		\$356,116,945	\$120,787,985
Flood Control		\$469,177,350	\$7,727,579
Recreation		\$476,725,189	\$179,740
Water Quality		\$476,904,929	\$0
Fish and Wildlife Enhancement		\$476,904,929	\$0
Navigation		\$476,904,929	\$0
OM&R	\$5,337,474,656		
Water Supply		\$3,909,489,262	\$1,427,985,394
Power		\$2,926,261,359	\$2,411,213,297
Flood Control		\$5,323,898,239	\$13,576,417
Recreation		\$5,336,423,175	\$1,051,481
Water Quality		\$5,337,474,656	\$0
Fish and Wildlife Enhancement		\$5,337,474,656	\$0
Navigation		\$5,337,474,656	\$0
TOTAL CVP	\$16,997,732,730		
Water Supply		\$10,940,172,390	\$6,057,560,340
Power		\$12,431,695,782	\$4,566,036,948

Purpose	Total Cost	Multipurpose Without Cost	Separable Costs
Flood Control		\$16,826,317,054	\$171,415,676
Recreation		\$16,982,591,697	\$15,141,033
Water Quality		\$16,997,732,730	\$0
Fish and Wildlife Enhancement		\$16,997,732,730	\$0
Navigation		\$16,997,732,730	\$0

Table 9-4 presents the SPA cost estimates. Accounting for all three cost components, the total SPA cost by purpose: water supply SPA (\$11.0 billion), power SPA (\$9.4 billion), flood control (\$5.3 billion), and water quality (\$4.1 billion). No SPA cost estimates were required for fish and wildlife enhancement, recreation, and navigation.

Table 9-4. Total Estimated SPA Costs by Purpose¹ (2013 Dollars)

Type of Cost	Water Supply SPA	Power SPA	Flood Control SPA	Water Quality SPA
Construction	\$7,830,971,993	\$1,617,562,352	\$3,745,324,665	\$2,643,732,657
IDC	\$310,143,077	\$76,621,927	\$152,354,756	\$106,206,497
OM&R	\$2,831,470,890	\$7,681,334,972	\$1,429,937,241	\$1,343,915,357
Total Cost	\$10,972,585,960	\$9,375,519,251	\$5,327,616,662	\$4,093,854,511

1. SPA cost estimates were not developed for the following purposes: fish and wildlife enhancement, recreation, and navigation.

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Chapter 10. Cost Allocation Results (Period 2)

This chapter presents the Period 2 cost allocation, which reflects expected future operation and benefits of the CVP. The results of the Period 2 allocation are based on the SCRB analysis and related sub-allocation process, as well as the costs, benefits, and assumptions outlined throughout this report. In addition, this chapter also carries the allocation through to the facility level to facilitate the water ratesetting process.

10.1 Application of SCRB to the CAS

The SCRB method is used as the starting point to allocate costs to the authorized purposes of the CVP (see Chapter 4, *Cost Allocation Methodology*). However, allocation of costs at the purpose level does not define repayment responsibilities; therefore, sub-allocation of costs is necessary. SCRB requires estimation of the benefits for each project purpose and the costs for each SPA that provides comparable benefits. The lesser of the benefits estimated for each purpose and SPA cost sets the limit of the amount that can be allocated to a particular project purpose. This is defined as the justifiable expenditure. The next step is to identify the separable costs for each project purpose, which are costs attributed to a single purpose.

Separable costs are calculated as the difference in the total multipurpose project cost and the cost of the project without a particular purpose included. The separable costs for each project purpose are then deducted from the justifiable expenditures for each purpose to derive the remaining justifiable expenditures. The remaining joint costs of the project are the total project costs less the total separable costs. Remaining joint costs are allocated to each project purpose based on the percentage share of the remaining justifiable expenditures (i.e., joint cost factors). The allocation of separable costs and remaining joint costs for each project purpose are added together to derive the total cost allocated to each purpose.

The SCRB analysis excludes direct assigned costs where repayment responsibilities have been set either through legislation and/or agreement (see Section 3.3). Specifically, where Congress has provided clear direction regarding the reimbursement of specific project features, or where Reclamation has entered into agreements regarding repayment, the costs of such features are deducted prior to implementing the SCRB analysis. After the SCRB analysis is completed, direct assigned costs are added back to the appropriate repayment category based on the provisions in the associated legislation or agreement.

The results of the SCRB analysis are shown in Table 10-1 (2013 dollars). The total SCRB costs subject to the cost allocation is approximately \$17.0 billion. Based on the comparison of economic benefits and SPA costs, the driver of justifiable expenditure for each project purpose is as follows:²⁵

²⁵ The purposes not listed below (i.e., recreation, navigation, and fish and wildlife enhancement) do not share in joint costs, so they are not considered in determining justifiable expenditure across project purposes.

- Water Supply: SPA costs (\$11.0 billion)
- Power: Benefits (\$5.7 billion)
- Flood Control: SPA costs (\$5.3 billion)
- Water Quality: Benefits (\$1.5 billion)

The separable costs across project purposes are as follows:

- Water Supply: \$6.1 billion
- Power: \$4.6 billion
- Flood Control: \$171.4 million
- Water Quality: \$0
- Recreation: \$15.1 million
- Navigation: \$0
- Fish and Wildlife Enhancement: \$0

The joint cost factors²⁶ (shown under the row titled “Remaining Justifiable Expenditure Percentage by Purpose” in Table 10-1) are calculated by dividing the remaining justifiable expenditures for each purpose by the total remaining justifiable expenditure. These factors are applied to the joint cost pool totaling approximately \$6.2 billion (2013 dollars) and are the only numbers from the SCRB process that are used in the facility-level allocation presented in Section 10.2.

- Water Supply: 38.74 percent
- Power: 9.12 percent
- Flood Control: 40.64 percent
- Water Quality: 11.49 percent
- Recreation: NA
- Navigation: NA
- Fish and Wildlife Enhancement: NA

The total allocation of costs represents the sum of separable and joint costs. The total allocated costs across project purposes is as follows (2013 dollars):

- Water Supply: \$8.4 billion
- Power: \$5.1 billion
- Flood Control: \$2.7 billion
- Water Quality: \$710.9 million

²⁶ Total may not sum to 100 percent due to rounding.

- Recreation: \$15.1 million
- Navigation: \$0
- Fish and Wildlife Enhancement: \$0

Table 10-1. SCRB Results – Period 2 (2013 Dollars)

SCRB Component	Water Supply	Power	Flood Control	Fish & Wildlife Enhancement	Recreation	Navigation	Water Quality	Total
Total Costs to Be Allocated								
Construction								\$11,183,353,145
IDC								\$476,904,929
OM&R								\$5,337,474,656
Total								\$16,997,732,730
Economic Benefits								
Benefits by Purpose	\$22,702,486,987	\$5,723,645,968	\$37,992,213,836	\$0	\$0	\$0	\$1,457,558,518	\$67,875,905,309
SPA Costs								
Construction	\$7,830,971,993	\$1,617,562,352	\$3,745,324,665	\$0	\$0	\$0	\$2,643,732,657	\$15,837,591,667
IDC	\$310,143,077	\$76,621,927	\$152,354,756	\$0	\$0	\$0	\$106,206,497	\$645,326,257
OM&R	\$2,831,470,890	\$7,681,334,972	\$1,429,937,241	\$0	\$0	\$0	\$1,343,915,357	\$13,286,658,460
Total	\$10,972,585,960	\$9,375,519,251	\$5,327,616,662	\$0	\$0	\$0	\$4,093,854,511	\$29,769,576,384
Justifiable Expenditure ¹								
Justifiable Expenditure by Purpose	\$10,972,585,960	\$5,723,645,968	\$5,327,616,662	\$0	\$0	\$0	\$1,457,558,518	\$23,481,407,108
Separable Costs ²								
Construction	\$4,456,147,695	\$2,034,035,666	\$150,111,679	\$0	\$13,909,811	\$0	\$0	\$6,654,204,851
IDC	\$173,427,250	\$120,787,985	\$7,727,579	\$0	\$179,740	\$0	\$0	\$302,122,554
OM&R	\$1,427,985,394	\$2,411,213,297	\$13,576,417	\$0	\$1,051,481	\$0	\$0	\$3,853,826,589
Total	\$6,057,560,339	\$4,566,036,948	\$171,415,675	\$0	\$15,141,032	\$0	\$0	\$10,810,153,994
Remaining Justifiable Expenditure ³								
Remaining Justifiable Expenditure, by Purpose	\$4,915,025,621	\$1,157,609,020	\$5,156,200,987	\$0	\$0	\$0	\$1,457,558,518	\$12,686,394,146
Remaining Justifiable Expenditure Percentage ⁴								

SCRB Component	Water Supply	Power	Flood Control	Fish & Wildlife Enhance-ment	Recrea-tion	Navigation	Water Quality	Total
Remaining Justifiable Expenditure Percentage, by Purpose	38.74%	9.12%	40.64%	0.00%	0.00%	0.00%	11.49%	100.00%
Allocation of Joint Costs								
Construction	\$1,754,705,278	\$413,276,176	\$1,840,806,651	\$0	\$0	\$0	\$520,360,641	\$4,529,148,294
IDC	\$67,715,062	\$15,948,560	\$71,037,762	\$0	\$0	\$0	\$20,081,009	\$174,782,375
OM&R	\$574,802,352	\$135,380,067	\$603,007,244	\$0	\$0	\$0	\$170,458,552	\$1,483,648,067
Total	\$2,397,222,692	\$564,604,803	\$2,514,851,657	\$0	\$0	\$0	\$710,900,202	\$6,187,578,736
Allocation of Total Costs								
Construction	\$6,210,852,973	\$2,447,311,842	\$1,990,918,330	\$0	\$13,909,811	\$0	\$520,360,641	\$11,183,353,597
IDC	\$241,142,312	\$136,736,545	\$78,765,341	\$0	\$179,740	\$0	\$20,081,009	\$476,904,947
OM&R	\$2,002,787,746	\$2,546,593,364	\$616,583,661	\$0	\$1,051,481	\$0	\$170,458,552	\$5,337,474,804
Total	\$8,454,783,031	\$5,130,641,751	\$2,686,267,332	\$0	\$15,141,032	\$0	\$710,900,202	\$16,997,733,348

1. Lesser of Benefits or SPA Costs
2. Total Multipurpose Cost minus Multipurpose w/o each purpose
3. Justifiable Expenditure minus Separable Costs
4. Also referred to as joint cost allocation factors

10.2 Facility-Level Cost Allocation

To accommodate Reclamation's ratesetting process, the costs in Period 2 are allocated separately by facility. Facility-level cost allocation factors are estimated for each project feature based on separable costs for each facility and the allocation of joint costs using the joint cost factors derived from the SCRB process. The composite allocation factors (incorporating both separable and joint costs) are used to allocate total cost to the authorized purposes for each facility. Costs allocated to the water supply and power purposes are then sub-allocated to the applicable sub-purposes for repayment. Lastly, the direct assigned costs are allocated to the appropriate repayment category. The *Cost Allocation Spreadsheet Appendix* to this report presents the summary tables that represent the facility-level allocation for Period 2.

The development of facility-level cost allocation factors involved several steps. First, the remaining joint costs by facility are estimated by subtracting the sum of the separable costs from the total cost to be allocated for each facility (*Cost Allocation Spreadsheet Appendix*, Table 1). The remaining joint costs are then allocated to the authorized purposes using the joint cost allocation factors which are calculated in the SCRB process (*Cost Allocation Spreadsheet Appendix*, Table 1). Next, the total allocated costs by authorized purposes are estimated for each facility by summing the separable costs and that portion of joint costs allocated to the purpose (*Cost Allocation Spreadsheet Appendix*, Table 2).

Finally, the composite cost allocation factors are derived by dividing the total cost allocated to each purpose by the total cost of the feature (*Cost Allocation Spreadsheet Appendix*, Table 2). These composite factors remain constant for the Period 2 allocation.

10.3 Sub-Allocation of Costs

The sub-allocation of water and power costs is necessary to assign costs to the applicable repayment category for water ratesetting purposes. Because the ratesetting calculations are based on nominal costs, the sub-allocation process uses unindexed costs (*Cost Allocation Spreadsheet Appendix*, Tables 3, 4, and 5). To accommodate the sub-allocation process, total unindexed cost for each facility are multiplied by the facility-level composite cost allocation factors to distribute the cost among authorized purposes (*Cost Allocation Spreadsheet Appendix*, Tables 6, 7, and 8). Repayment responsibilities for costs allocated to the water supply and power purposes are determined through the sub-allocation process described below.

10.3.1 Water Supply Cost Sub-Allocation

For the Period 2 cost allocation, water supply costs are sub-allocated to the following sub-purposes: irrigation, M&I, wildlife refuge, and CVPIA functions.²⁷ The water supply sub-allocation is performed on the basis of water use (measured in acre feet). Water supply sub-allocation factors

²⁷ The inclusion of B2 water supply as a water supply sub-purpose is a new concept. B2 releases that were included in the water supply purpose relate to releases under excess conditions that could not be recaptured for other purposes, such as water quality. In other words, only those B2 releases that flow to the ocean because they could not be used for any other purpose were included as part of the water supply purpose.

representing water use distributions are estimated for 15 different delivery areas and operational contexts (*Cost Allocation Spreadsheet Appendix*, Table 9). Because Period 2 represents a prospective analysis, the water use data is based primarily on CalSim 2 modeling, which reflects current/projected operations and regulatory constraints.

Information on B2 water supplies are derived from CVPIA water accounting records reported by the Central Valley Operations (CVO) office. The various water supply sub-allocation distributions are assigned to each CVP facility that has a water supply allocation based on location and operational considerations. The sub-allocation of water supply costs (construction, IDC, and OM&R) by facility are shown in *Cost Allocation Spreadsheet Appendix*, Tables 10, 11, and 12.

10.3.1.1 Sub-allocation of Wildlife Refuge and B2 Water Supply Costs

The water supply sub-allocation involves additional sub-allocation of costs assigned to the wildlife refuge and B2 sub-purposes due to differing repayment requirements. Specifically, refuge water supply costs are sub-allocated to Level 2 and Incremental Level 4 refuge deliveries. CalSim 2 provides projected delivery quantities for Level 2 refuge water supplies. Projected Incremental Level 4 refuge deliveries are estimated based on a 10-year average of historic refuge delivery data.

Additional consideration of Incremental Level 4 deliveries in the water supply sub-allocation is required in order to allocate costs to applicable facilities and to avoid double-counting of water across water supply sub-purposes. Incremental Level 4 water delivered by Reclamation is derived from non-CVP sources, including project water that was originally allocated to CVP water users but subsequently permanently or temporarily assigned or transferred to the refuge program. In cases where reimbursable project water is transferred for the purposes of meeting non-reimbursable Incremental Level 4 demands, these water supplies are modeled as irrigation and/or M&I deliveries in CalSim and the water supply sub-allocation process. This modeling is appropriate because the water users are charged and compensated for that water, and it should not be sub-allocated to Incremental Level 4. There is non-CVP derived water that utilizes south-of-Delta CVP conveyance facilities to meet Incremental Level 4 demands, namely the Delta-Mendota Canal, which is accounted for in the water supply sub-allocation process.²⁸ Specifically, it is estimated that 10 percent of Incremental Level 4 south-of-Delta refuge deliveries are derived from non-CVP sources and are conveyed through the Delta-Mendota Canal, which is reflected in the water supply sub-allocation distributions.

Costs allocated to Incremental Level 4 refuge water supplies are non-reimbursable and are sub-allocated 75 percent to the Federal government and 25 percent to the State of California. Costs allocated to Level 2 refuge water and B2 water are considered reimbursable in the Period 2 allocation, thereby assigned to water and power users only. These costs are sub-allocated to irrigation, M&I, and commercial power based on the proportion of reimbursable costs across the three sub-purposes as shown in Section 10.5, Table 10-2, and the *Cost Allocation Spreadsheet Appendix*, Table 16. The *Cost Allocation Spreadsheet Appendix* Tables 17, 18, and 19 present the sub-allocation of reimbursable refuge and B2 water supply costs.

²⁸ Incremental Level 4 water that comes from north-of-Delta sources does not utilize CVP conveyance facilities.

10.3.2 Power Cost Sub-Allocation

For Period 2, costs allocated to the power purpose are sub-allocated between commercial power and project use energy. Power costs that are sub-allocated to the PUE function are subject to the water supply sub-allocation process described above in Section 10.3.1. The power sub-allocation in Period 2 is based on LTGEN modeling results which are derived from CalSim 2 output, accounting for adjustments for the San Luis Unit.²⁹

The power sub-allocation utilizes one uniform sub-allocation distribution across all power facilities based on system-wide power generation and use with one exception.³⁰ Specifically, average annual project use energy consumption (minus San Luis Unit generation) is estimated to be 1,033.71 GWh, and average annual CVP power generation is estimated to be 4,514.60 GWh resulting in the following power sub-allocation factors: commercial power (77.103%) and PUE (22.897%).³¹ The average annual PUE is the total energy use at the pumping plant minus the generation of the San Luis Unit. The average annual CVP power generation is the at-plant generation minus regeneration by the San Luis Unit and estimated transmission losses. The sub-allocation factors are calculated using the following equations:

$$\text{PUE Sub-allocation Factor} = \frac{\text{Total Use at Pumping Plant} - \text{San Luis Unit Generation}}{\text{Total CVP Generation} - \text{Transmission Losses}}$$

$$\text{Commercial Power Sub-allocation Factor} = 1 - \text{PUE Sub-allocation Factor}$$

The sub-allocation of power costs by facility is shown in *Cost Allocation Spreadsheet Appendix* Tables 13, 14, and 15.

10.4 Allocation of Direct Assigned Costs

Direct assigned costs are incorporated into the cost allocation after the water supply and power sub-allocation is completed. Only direct assigned costs that are plant-in-service (i.e., construction) are assigned to sub-purposes. Estimates of IDC and OM&R are not developed for direct assigned costs. Direct assigned costs are designated as either reimbursable or non-reimbursable based on legislation and/or agreements (see Section 3.3). The sub-allocation of direct assigned costs by facility is shown in *Cost Allocation Spreadsheet Appendix* Table 20. Direct assigned costs categorized as reimbursable are further sub-allocated to the reimbursable sub-purposes based on the distribution of reimbursable construction costs shown in Section 10.5 (Table 10-2).

²⁹ For the purposes of the Period 2 allocation, power generation at O'Neill and Giannelli pump-generation facilities in the San Luis Unit (117.038 GWh annually) was removed from power sub-allocation calculations because these facilities serve the water supply purpose only.

³⁰ The costs associated with the Pacific Alternating Current Intertie (PACI) transmission system is sub-allocated 100 percent to commercial power.

³¹ The calculated sub-allocation factors will be replaced during the implementation phase using real-time data. LTGEN results are not adjusted by the process described in Chapter 7.7.1.2 and the *Economic Benefits Analysis Appendix* for the calculation of CVP energy generation economic benefits.

10.5 Sub-Allocation of Reimbursable Costs

Reimbursable costs are allocated only to the three reimbursable sub-purposes (i.e., irrigation, M&I, and commercial power). In these cases, the sub-allocation follows the distribution of costs across the three sub-purposes through the water supply and power sub-allocation process. Separate distributions of reimbursable costs for construction, IDC, and OM&R costs are shown in Table 10-2.

Table 10-2. Reimbursable Purpose Allocation Percentages (Nominal Dollars)

Sub-Purpose	Construction (\$)	Construction (%)	IDC (\$)	IDC (%)	OM&R (\$)	OM&R (%)
Irrigation	\$990,835,007	58.7%	\$71,523,621	57.2%	\$2,007,374,630	46.4%
M&I	\$131,817,462	7.8%	\$8,045,878	6.4%	\$319,563,407	7.4%
Commercial Power	\$566,051,934	33.5%	\$45,491,632	36.4%	\$1,997,332,755	46.2%
Total	\$1,688,704,403	100.0%	\$125,061,131	100.0%	\$4,324,270,792	100.0%

10.5.1 Allocation of Reimbursable SOD Costs

The allocation of SOD costs is defined by legislation. Specifically, 85 percent of SOD costs are non-reimbursable and 15 percent are reimbursable. Reimbursable SOD costs in Period 2 do not follow reimbursable cost distributions in Table 10-2. Instead, these costs follow the cost allocation factors for the appurtenant facility from the existing Period 1 allocation to distribute costs among the water supply and power purposes (see Section 5.10 for more information). Water supply costs are further sub-allocated using the Period 2 water supply sub-allocation factors (*Cost Allocation Spreadsheet Appendix*, Table 9) and all power costs are allocated to commercial power. The allocation of reimbursable SOD costs is presented in *Cost Allocation Spreadsheet Appendix*, Table 21.

10.6 Cost Allocation Summary (Period 2)

The results of the Period 2 cost allocation, including the water supply and power sub-allocation and assignment of direct assigned costs and repayment contracts is presented in Table 10-3. Table 10-3 focuses on the allocation of construction costs only. The allocation of estimated IDC and OM&R costs at the facility level are presented in the appendix; however, these costs are not presented here because they have been estimated for the purpose of the SCRB analysis only and do not represent actual costs subject to repayment.³²

³² Reimbursable IDC will be re-calculated for Period 2 based on the results on the Period 2 construction allocation (see Section 12.3.2). OM&R costs that are included in water rates are projected costs that are estimated annually; these costs will be allocated pursuant to the CAS results (refer to Section 12.4).

Table 10-3. Cost Allocation Summary – Period 2 (Nominal Dollars)¹

Cost Category	Construction
Irrigation Water Supply	
Water Supply Sub-Allocation	\$870,012,164
Project Use Energy – Power Sub-Allocation	\$120,822,843
Refuge Water Supply (Level 2) – Water Supply Sub-Allocation	\$54,759,215
B2 Water Supply – Water Supply Sub-Allocation	\$2,930,463
Refuge Water Supply (Level 2) – PUE Sub-Allocation	\$8,251,601
SCRB Allocation & Sub-Allocation Sub-Total	\$1,056,776,286
Direct Assigned Cost – Safety of Dams	\$3,017,064
Direct Assigned Cost – Other	\$8,724,372
Direct Assigned Cost Sub-Total	\$11,741,436
Irrigation Total	\$1,068,517,722
Municipal and Industrial Water Supply	
Water Supply Sub-Allocation	\$108,329,815
Project Use Energy – Power Sub-Allocation	\$23,487,647
Refuge Water Supply (Level 2) – Water Supply Sub-Allocation	\$7,284,986
B2 Water Supply – Water Supply Sub-Allocation	\$389,859
Refuge Water Supply (Level 2) – PUE Sub-Allocation	\$1,097,765
SCRB Allocation & Sub-Allocation Sub-Total	\$140,590,072
Direct Assigned Cost – Safety of Dams	\$570,349
Direct Assigned Cost - Other	\$1,160,662
Direct Assigned Cost Sub-Total	\$1,731,011
M&I Total	\$142,321,083

Cost Category	Construction
Refuge Water Supply (Non-Reimbursable)	
Refuge Water Supply (Incremental Level 4) – Water Supply Sub-Allocation	\$539,800
Refuge Water Supply (Incremental Level 4) – PUE Sub-Allocation	\$229,974
Non-Reimbursable Refuge Water Supply Total	\$769,774
Commercial Power	
Power Sub-Allocation	\$566,051,934
Refuge Water Supply (Level 2) – Water Supply Sub-Allocation	\$31,283,269
B2 Water Supply – Water Supply Sub-Allocation	\$1,674,137
Refuge Water Supply (Level 2) – PUE Sub-Allocation	\$4,714,040
SCRB Allocation & Sub-Allocation Sub-Total	\$603,723,380
Direct Assigned Cost – Safety of Dams	\$1,184,217
Direct Assigned Cost - Other	\$4,984,127
Direct Assigned Cost Sub-Total	\$6,168,344
Commercial Power Total	\$609,891,724
Flood Control	
Flood Control Total	\$331,281,759
Fish and Wildlife Enhancement	
Fish and Wildlife Enhancement Total	\$0
Recreation	
Recreation Total	\$5,742,471
Navigation	
Navigation Total	\$0
Water Quality	
Water Quality Total	\$89,358,743

Cost Category	Construction
Direct Assigned Costs (Non-Reimbursable)	
Federal – Safety of Dams	\$27,039,235
Federal - Other	\$170,655,307
Direct Assigned Cost – Federal Sub-Total	\$197,694,542
State	\$248,310,255
Direct Assigned Cost – State Sub-Total	\$248,310,255
State & Local	\$4,467,386
Direct Assigned Cost – State & Local Sub-Total	\$4,467,386
Repayment Contracts	
Irrigation	\$361,392,079
M&I	\$227,656,572
Commercial Power	\$8,568,500
Total Allocated Costs (SCRB)	\$2,228,242,485
Total Direct Assigned Costs ²	\$470,112,974
Total Repayment Contracts	\$597,617,151
Total Costs for Repayment	\$3,295,972,610

1. The table excludes additional repayment obligations and costs not allocated discussed in Section 3.5 and Section 3.6, respectively.
 2. Direct assigned costs reflect construction costs only and therefore do not match the values reported in Section 3.3.
- NA = Not Applicable

Chapter 11. Final Cost Allocation (Two-Period Merge)

This chapter presents the results of the final CVP cost allocation which represents the merger of the Period 1 allocation (historic allocation) and Period 2 allocation (prospective allocation). The two periods are merged based on an equal weighting as outlined in the two cost allocation and two-period repayment approach (see Section 5.1). The information presented in this chapter for the final cost allocation focuses on the allocation of CVP construction cost and the resultant assignment of costs for repayment purposes, which will be incorporated into the water ratesetting process.

The Period 1 allocation is based on the 1975 cost allocation factors and current sub-allocation process. Reclamation prepares an annual update to the interim allocation of the CVP for plant-in-service (construction) and O&M costs. The 2013 annual plant-in-service allocation is the basis for the allocation of costs associated with construction and IDC for Period 1.³³ The Period 2 allocation is based on the prospective analysis of CVP costs and benefits described in this report. The final cost allocation is a merge of the Period 1 and Period 2 allocations as described in Chapter 5, *Key Concepts and Assumptions*.

11.1 Final Cost Allocation Results

11.1.1 Construction Allocation

The results of the two-cost allocation and two-period repayment merge of construction costs are shown in Table 11-1. The table shows the total allocation for both Period 1 and Period 2, the weighted allocation for both periods, and the merger of the two periods that represents the final cost allocation. The total costs allocated in each period are equal; however, the costs are distributed differently based on different allocation of costs in Period 1 and Period 2. The total of the allocated costs in the two cost allocation two-period repayment merger is \$3,900,200,339.

Table 11-1 includes plant-in-service costs that are included in the CAS Facility List as well as other costs that are part of the annual CVP cost allocation that are assigned to water and power users for repayment. Repayment contracts and additional repayment obligations are not affected by the Period 2 allocation, and therefore, these costs are fixed across the two periods. Costs not allocated, including CVPIA, authorized deferred use and recent Folsom SOD costs, are shown separately in Table 11-1.

³³ The 2013 plant-in-service allocation is used for consistency with the base year (2013) used in the CAS.

Table 11-1. Final Cost Allocation (Merge) – Construction (Nominal Dollars)

Type of Cost	Period 1	Period 2	Period 1 (50%)	Period 2 (50%)	Final Cost Allocation (Merge)
Authorized Purposes & Sub-Purposes					
Water Supply – Irrigation	\$1,178,115,286	\$1,068,517,722	\$589,057,643	\$534,258,861	\$1,123,316,504
Water Supply – M&I	\$106,873,582	\$142,321,083	\$53,436,791	\$71,160,542	\$124,597,333
Power – Commercial	\$674,248,511	\$609,891,724	\$337,124,256	\$304,945,862	\$642,070,118
Flood Control	\$139,282,872	\$331,281,759	\$69,641,436	\$165,640,880	\$235,282,316
Water Quality	\$5,607,545	\$89,358,743	\$2,803,773	\$44,679,372	\$47,483,145
Recreation	\$74,998,433	\$5,742,471	\$37,499,217	\$2,871,236	\$40,370,453
Navigation	\$6,423,948	\$0	\$3,211,974	\$0	\$3,211,974
Fish & Wildlife Enhancement ¹	–	–	–	–	–
Non-Reimbursable (Other)					
Federal	\$258,046,528	\$198,271,873	\$129,023,264	\$99,135,936	\$228,159,200
State	\$250,429,656	\$248,502,699	\$125,214,828	\$124,251,349	\$249,466,177
State & Local	\$4,329,037	\$4,467,386	\$2,164,519	\$2,233,693	\$4,398,212
Repayment Contracts					
Irrigation	\$361,392,079	\$361,392,079	\$180,696,040	\$180,696,040	\$361,392,079
M&I	\$227,656,572	\$227,656,572	\$113,828,286	\$113,828,286	\$227,656,572

Type of Cost	Period 1	Period 2	Period 1 (50%)	Period 2 (50%)	Final Cost Allocation (Merge)
Commercial Power	\$8,568,500	\$8,568,500	\$4,274,250	\$4,274,250	\$8,568,500
Facility List Sub-Total	\$3,295,972,549	\$3,295,972,610	\$1,647,986,277	\$1,647,986,307	\$3,295,972,584
Additional Repayment Obligations					
Repayment Obligations – USACE					
Irrigation	\$19,686,165	\$19,686,165	\$9,843,083	\$9,843,083	\$19,686,166
M&I	\$447,937	\$447,937	\$223,969	\$223,969	\$447,938
WAPA Retired Assets					
Irrigation	\$8,464,815	\$8,464,815	\$4,232,408	\$4,232,408	\$8,464,816
M&I	\$1,207,155	\$1,207,155	\$603,578	\$603,578	\$1,207,156
Commercial Power	\$35,649,679	\$35,649,679	\$17,824,840	\$17,824,840	\$35,649,680
Non-Reimbursable (Federal)	\$213,468	\$213,468	\$106,734	\$106,734	\$213,468
Non-Reimbursable (State)	\$16,115	\$16,115	\$8,058	\$8,058	\$16,116
CA-OR Transmission Project	\$20,282,786	\$20,282,786	\$10,141,393	\$10,141,393	\$20,282,786
Additional Repayment Obligations Sub-Total	\$85,968,120	\$85,968,120	\$42,984,063	\$42,984,063	\$85,968,126
Costs Not Allocated					
Authorized Deferred Use	\$56,875,000	\$56,875,000	\$28,437,500	\$28,437,500	\$56,875,000

Type of Cost	Period 1	Period 2	Period 1 (50%)	Period 2 (50%)	Final Cost Allocation (Merge)
CVPIA	\$340,872,120	\$340,872,120	\$170,436,060	\$170,436,060	\$340,872,120
Folsom SOD – Not in Repayment	\$120,512,509	\$120,512,509	\$60,256,255	\$60,256,255	\$120,512,510
<i>Costs Not Allocated Sub-Total</i>	<i>\$518,259,629</i>	<i>\$518,259,629</i>	<i>\$259,129,815</i>	<i>\$259,129,815</i>	<i>\$518,259,629</i>
Total Cost	\$3,900,200,298	\$3,900,200,359	\$1,950,100,154	\$1,950,100,185	\$3,900,200,339

1. Fish and wildlife mitigation costs are allocated to applicable categories for repayment, including non-reimbursable costs

11.1.2 IDC Allocation

The merge of IDC costs for repayment purposes is shown in Table 11-2. IDC subject to repayment is different than estimated IDC used in the SCRB analysis and reflects actual IDC in the CVP financial records. IDC estimated for the CAS and SCRB analysis is at the appraisal level, and IDC for repayment in Period 2 will be calculated during implementation in accordance with Reclamation accounting guidelines. The merger of IDC costs will be completed after the final cost allocation is complete and IDC is calculated for Period 2 based on the methodology presented in Section 12.3.2.

The values presented in Table 11-2 includes non-reimbursable IDC costs. Non-reimbursable IDC is associated with the New Melones Unit (\$27.0 million) and the San Felipe Division (\$4.1 million). For the New Melones Unit, these costs are direct assigned as non-reimbursable because Reclamation does not charge IDC on irrigation costs; and for the San Felipe Division, these costs are direct assigned as non-reimbursable pursuant to an agreement between Reclamation and water contractors. Additional information on non-reimbursable IDC costs is presented in Section 3.3. Non-reimbursable IDC costs will remain fixed across Period 1 and Period 2 and are not subject to repayment.

Table 11-2. Final Cost Allocation (Merge) – IDC^{1,2}

Category	Period 1 (Total)	Period 2 (Total)	Period 1 (50%)	Period 2 (50%)	Final Cost Allocation (Merge)
M&I	\$5,606,224	TBD	\$2,803,112	TBD	TBD
Commercial Power	\$54,755,940	TBD	\$27,377,970	TBD	TBD
Non-Reimbursable ³	\$31,114,589	\$31,114,589	\$15,557,295	\$15,557,295	\$31,114,589
Repayment Contracts – M&I ⁴	\$35,778,896	\$35,778,896	\$17,889,448	\$17,889,448	\$35,778,896
Repayment Contracts – Commercial Power ⁴	\$411,801	\$411,801	\$205,901	\$205,901	\$411,801
Total	\$127,255,650	TBD	\$63,627,825	TBD	TBD

1. Includes IDC for both Reclamation and WAPA facilities

2. Excludes IDC associated with CVPIA facilities and Folsom SOD (Not in Repayment)

3. This value represents IDC that is included in the CVP Financial Statements but has been direct assigned as non-reimbursable based on legislation and/or agreement.

4. IDC associated with repayment contracts will remain fixed across Period 1 and Period 2.

TBD = To be determined

11.1.3 OM&R Allocation

The allocation of OM&R costs is not subject to the two-period merger because they reflect prospective costs only. Reclamation will continue to allocate OM&R costs annually using the results of the Period 2 allocation only. Additional information related to the methodology that will be used to allocate projected OM&R costs is presented in Section 12.4.

11.1.4 Summary of Repayment Obligations

The summary of repayment obligations for construction costs is presented in Table 11-3. Repayment obligations shown in Table 11-4 reflect the costs allocated (and sub-allocated) to reimbursable and non-reimbursable purposes in Period 1, Period 2, and the final cost allocation. The breakdown of construction costs allocated across reimbursable sub-purposes is shown in Table 11-4.

Table 11-3. Summary of Repayment Obligations – Construction (Excludes IDC and OM&R)

Category	Period 1 (\$)	Period 1 (%)	Period 2 (\$)	Period 2 (%)	Period 2 (Change from P1)	Final Cost Allocation (\$)	Final Cost Allocation (%)	Final Cost Allocation (Change from P1)
Irrigation	\$1,206,266,266	30.93%	\$1,096,668,702	28.12%	(\$109,597,564)	\$1,151,467,486	29.52%	(\$54,798,780)
M&I	\$108,528,674	2.78%	\$143,976,175	3.69%	\$35,447,501	\$126,252,427	3.24%	\$17,723,753
Commercial Power	\$730,180,976	18.72%	\$665,824,189	17.07%	(\$64,356,787)	\$698,002,584	17.90%	(\$32,178,392)
Repayment Contracts	\$597,617,151	15.32%	\$597,617,151	15.32%	\$0	\$597,617,152	15.32%	\$0
Non-reimbursable	\$739,347,602	18.96%	\$877,854,513	22.51%	\$138,506,911	\$808,601,061	20.73%	\$69,253,459
CVPIA	\$340,872,120	8.74%	\$340,872,120	8.74%	\$0	\$340,872,120	8.74%	\$0
Authorized Deferred Use	\$56,875,000	1.46%	\$56,875,000	1.46%	\$0	\$56,875,000	1.46%	\$0
SOD – Not in Repayment	\$120,512,509	3.09%	\$120,512,509	3.09%	\$0	\$120,512,509	3.09%	\$0
Total	\$3,900,200,298	100.00%	\$3,900,200,359	100.00%	NA	\$3,900,200,339	100.00%	NA

P1 = Period 1

SOD = Safety of Dams

Table 11-4. Reimbursable Cost Distribution – Construction (Excludes IDC and OM&R)

Category ¹	Period 1 (\$)	Period 1 (%)	Period 2 (\$)	Period 2 (%)	Final Cost Allocation (\$)	Final Cost Allocation (%)
Irrigation	\$1,206,266,266	58.99%	\$1,096,668,702	57.52%	\$1,151,467,486	58.28%
M&I	\$108,528,674	5.31%	\$143,976,175	7.55%	\$126,252,427	6.39%
Commercial Power	\$730,180,976	35.71%	\$665,824,189	34.92%	\$698,002,584	35.33%
Total	\$2,044,975,916	100.00%	\$1,906,469,066	100.00%	\$1,975,722,497	100.00%

1. Values presented in this table do not include repayment contracts.

Chapter 12. Implementation of the Final Cost Allocation

This chapter presents the proposed approach for implementing the final cost allocation in the context of the CVP water ratesetting and power repayment processes.

12.1 Cost Allocation and Repayment

The primary purpose of cost allocation is to determine the assignment of costs to project beneficiaries for repayment. As repayment requirements differ by law among the authorized purposes served by a project, a systematic and impartial process of allocation is required to quantify and assign those costs that are clearly associated with a particular purpose, and to equitably apportion the remaining joint costs that serve multiple purposes. The cost allocation process is the basis for assigning costs to project beneficiaries for repayment.

Allocated costs and estimated repayment must be determined independently. Costs are not to be allocated to a particular purpose based on the ability (or inability) of certain beneficiaries to repay allocated costs. All project purposes are to receive an equitable share of the efficiencies (and cost savings) provided of a multipurpose project. Therefore, all purposes should receive comparable treatment in the cost allocation process.

Project costs have been allocated to reimbursable and non-reimbursable purposes as presented in Chapter 11, *Final Cost Allocation (Two Period Merge)* (see Table 11-4). The reimbursable costs in the final cost allocation serve as the foundation for assigning water costs for repayment through the CVP water ratesetting process and establishing power repayment obligations.

12.2 CVP Water Ratesetting Policy

The water ratesetting process is used to calculate water service rates that recover the Federal investment in constructing and operating and maintaining the CVP. The legislation guiding the recovery of the Federal investment through water service rates is the Reclamation Project Act of 1939 (Act). Water service contracts are authorized under Sections 9c(2) and 9e of the Act for M&I and irrigation water, respectively. Water service contracts are used in cases like the CVP where there are a wide range of multipurpose facilities serving different purposes and beneficiaries (contractors). For water contractors, costs are allocated to and recovered from beneficiaries based on the amount of water received (i.e., water service). The basic unit of measurement for water deliveries, and thus cost recovery, is acre-feet of water.

For water service contracts, the Act requires the Secretary of the Interior to establish water rates for the sale of water to “produce revenue at least sufficient to cover annual O&M costs and the

appropriate share of fixed charges (construction costs) of the project.” Reclamation has broad discretion under the Act for developing and implementing ratesetting policies. Formal water ratesetting policies are in place for the CVP. Specifically, Reclamation has the following two ratesetting policies which together apply to over 200 water service contractors within the CVP:

- The CVP Irrigation Ratesetting Policy (Reclamation 1988)
- The Interim CVP M&I Ratesetting Policy (Reclamation 1993)

To facilitate the CVP water ratesetting process, an allocation of construction (plant-in-service) cost is performed annually, which assigns costs to the water supply sub-purposes of irrigation and M&I. Generally, construction costs are to be recovered over 50 years. The majority of CVP facilities currently in place have costs that are recoverable through 2030. Costs are recovered through water rates based on cost pools. The following cost pools are used in the CVP: storage, conveyance, conveyance pumping, and CVP-wide costs.

There are also facility costs attributed to PUE which is allocated further to storage, conveyance pumping, and direct pumping cost pools based on the energy utilized over a 50-year period. Each cost pool is pro-rated across water contractors that benefit from the service based on chargeable water over the 50-year period.

Generally, O&M water rates are also based on cost pools. For O&M, the two main cost pools are storage and water marketing. Similar to construction, an annual O&M allocation is prepared that assigns costs to project purposes, and costs allocated to irrigation and M&I are ultimately assigned to cost pools and divided by the estimated water deliveries to develop an estimated water rate (\$/AF) for that year. Subsequently, the estimated costs are trued up to determine the allocation of actual O&M costs in each cost pool. The total reimbursable cost in each cost pool is pro-rated among the water contractors required to pay for that service based on actual chargeable water.

12.3 Project Repayment (Construction & IDC Costs)

12.3.1 Construction Costs

The CVP plant-in-service (construction) allocation is prepared annually to reflect changes in CVP construction costs and sub-allocation processes that vary year to year. The results of the final cost allocation presented in Chapter 11 is representative of 2013 plant-in-service (construction) costs and water supply and power sub-allocation distributions developed as part of this study that are based on modeled conditions. However, when the final cost allocation is implemented annually, Reclamation will apply the final cost allocation results to current costs and operational conditions that are in effect at the time the annual plant-in-service allocation is prepared taking into consideration applicable ratesetting and Reclamation policy.

12.3.2 IDC Costs

IDC subject to repayment will be re-calculated for the Period 2 allocation³⁴. The re-calculation of IDC in Period 2 is required to reflect the new cost allocation factors, specifically the allocation of costs to M&I and commercial power, which are the only two sub-purposes that are assigned reimbursable IDC. The process that will be used to re-calculate IDC in Period 2 will take into consideration applicable ratesetting and Reclamation policy. Once IDC is re-calculated for Period 2, it will be merged with the IDC in Period 1 (which is fixed) for inclusion in CVP water rates and power repayment obligations.

12.4 Cost Recovery (OM&R Costs)

For the purposes of the SCRB analysis, estimated OM&R costs were developed; however, these costs are not used in the ratesetting process. For ratesetting purposes, the annual CVP OM&R allocation is prepared separately from the plant-in-service (construction) allocation and represents a prospective analysis that covers projected OM&R costs for the subsequent fiscal year. The annual OM&R cost projections are derived from the budget prepared for the MP Region annually. Projected OM&R costs are ultimately reconciled to actual OM&R expenses after they become available.

The structure of the OM&R cost allocation is different than the plant-in-service allocation. The plant-in-service allocation is based primarily on CVP facility costs, while the OM&R allocation not only covers ongoing costs associated with CVP facilities, it also covers more generalized OM&R costs.

After the final cost allocation is implemented, the allocation of annual OM&R costs will be based on the Period 2 allocation to the extent practicable. The allocation is intended to represent current operating conditions of the CVP. Specifically, the facility-level cost allocation factors from the Period 2 allocation will be applied to facility-level OM&R costs where applicable. For more generalized OM&R costs, appropriate cost allocation factors will be developed consistent with cost allocation principles, Reclamation policy, and applicable laws and regulations.

12.5 Future CVP Investments

Future investments in the CVP, such as CALFED projects, are currently being considered under the WIIN Act (PL 114-322). In the event that a future investment will be accompanied with outstanding repayment obligations, the feasibility report for such investment will provide a cost allocation for repayment of such investments. OM&R costs accompanying future investments will be incorporated into the OM&R allocation directly or through the cost allocation that accompanies such an investment (see CMP 09-04).

³⁴ Reclamation will proportionately change IDC when allocated construction amounts change and proportional adjustments are appropriate. Otherwise, IDC will be either based on those computed for the period 2 allocation or estimated per IDC policy (FIN 07-21).

12.6 Allocation of CVPIA Costs

Concurrent with the CVP CAS, a reconciliation of CVPIA expenditures is being conducted to determine whether CVPIA revenues are sufficient to recover CVPIA expenditures. Section 3406(b)(4) states that the reimbursable share “shall be allocated among project water and power users in accordance with existing project cost allocation procedures.” The allocation of CVPIA costs is specified in the BPG.

CAS Facility List

CVP Cost Allocation Study Facility List (FY 2013) ^{1,2}

In the table below, direct assigned costs (DAC) and costs not allocated³ (CNA) are excluded from SCRB cost allocation.

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
CVP (General)									
Centralized Water and Power System Control	\$32,473,924	\$0	\$0	\$0	\$0	\$0	\$0	\$32,473,924	\$0
CVP Radio Network	\$2,506,417	\$0	\$0	\$0	\$0	\$0	\$0	\$2,506,417	\$0
Telemetry Equipment	\$130,180	\$0	\$0	\$0	\$0	\$0	\$0	\$130,180	\$0
American River Division									
Carrier Current Equipment - Folsom	\$32,139	\$0	\$0	\$0	\$0	\$0	\$0	\$32,139	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Folsom Dam & Reservoir, Safety of Dams (in Repayment)	\$26,385,404	\$0	\$26,385,404	\$0	\$0	\$0	\$0	\$0	\$0
Folsom Dam & Reservoir	\$103,754,844	\$0	\$0	\$0	\$0	\$0	\$0	\$103,754,844	\$0
Folsom Dam Pumping Plant - Enhancement	\$3,144,844	\$0	\$0	\$0	\$0	\$0	\$0	\$3,144,844	\$0
Folsom Powerplant	\$26,598,010	\$0	\$0	\$0	\$0	\$0	\$0	\$26,598,010	\$0
Folsom Switchyard (American River Division)	\$1,396,335	\$0	\$0	\$0	\$0	\$0	\$0	\$1,396,335	\$0
Nimbus Dam & Reservoir	\$6,809,933	\$0	\$0	\$40,000	\$0	\$0	\$0	\$6,769,933	\$0
Nimbus Fish Protection Facility	\$1,239,913	\$1,239,913	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Nimbus Power Plant	\$6,517,250	\$0	\$0	\$0	\$0	\$0	\$0	\$6,517,250	\$0
Nimbus Switchyard	\$147,460	\$0	\$0	\$0	\$0	\$0	\$0	\$147,460	\$0
Permanent Operating Facilities - Folsom	\$11,635,054	\$0	\$0	\$0	\$0	\$0	\$0	\$11,635,054	\$0
Replace 4160 Feeder Cable - Folsom Pumps	\$351,247	\$0	\$0	\$0	\$0	\$0	\$0	\$351,247	\$0
Replace Transformer K3A - Folsom	\$1,435,519	\$0	\$0	\$0	\$0	\$0	\$0	\$1,435,519	\$0
Security Improvements - Folsom	\$15,399,932	\$0	\$0	\$15,399,932	\$0	\$0	\$0	\$0	\$0
Union Hills Reservoir	\$80,000	\$0	\$0	\$0	\$0	\$0	\$0	\$80,000	\$0
Auburn-Folsom South Unit									

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
American River Pumping Station	\$3,589,560	\$0	\$0	\$3,589,560	\$0	\$0	\$0	\$0	\$0
Folsom-South Canal	\$6,696,654	\$0	\$0	\$0	\$0	\$0	\$2,425,000	\$4,271,654	\$0
Folsom-South Canal - Recreation Facilities	\$334,213	\$0	\$0	\$0	\$0	\$0	\$0	\$334,213	\$0
No Hands Bridge	\$1,192,567	\$0	\$0	\$0	\$0	\$0	\$0	\$1,192,567	\$0
Permanent Operating Facilities - Auburn-Folsom South	\$10,142	\$0	\$0	\$0	\$0	\$0	\$0	\$10,142	\$0
Delta Division									
Automated Meters	\$678,598	\$0	\$0	\$0	\$0	\$0	\$0	\$678,598	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Carrier Current Equipment - Tracy	\$189,212	\$0	\$0	\$0	\$0	\$0	\$0	\$189,212	\$0
Clayton Canal	\$473,804	\$0	\$0	\$0	\$0	\$0	\$0	\$473,804	\$0
Colombia Mowry	\$911,474	\$0	\$0	\$0	\$0	\$0	\$0	\$911,474	\$0
Contra Costa Canal	\$5,581,989	\$0	\$0	\$0	\$0	\$0	\$0	\$5,581,989	\$0
Contra Costa Canal System - Deferred Maintenance	\$542,664	\$0	\$0	\$0	\$0	\$0	\$0	\$542,664	\$0
Contra Costa Water District - Distribution System	\$1,166,455	\$0	\$0	\$0	\$0	\$1,166,455	\$0	\$0	\$0
Contra Costa Fish Screen [PL 102-575, Sec. 3406(b)(5)]	\$30,062,388	\$0	\$0	\$0	\$30,062,388	\$0	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Contra Costa Pumping Plant	\$748,821	\$0	\$0	\$0	\$0	\$0	\$0	\$748,821	\$0
Contra Loma Dam & Reservoir	\$4,514,442	\$0	\$0	\$0	\$0	\$0	\$0	\$4,514,442	\$0
Contra Loma Dam & Reservoir - Recreation Facilities	\$205,367	\$0	\$0	\$0	\$0	\$0	\$0	\$205,367	\$0
Delta Cross Channel	\$2,990,960	\$0	\$0	\$0	\$0	\$0	\$0	\$2,990,960	\$0
Delta-Mendota Canal	\$80,251,070	\$0	\$0	\$0	\$0	\$0	\$0	\$80,251,070	\$0
Delta-Mendota Intake	\$1,931,474	\$0	\$0	\$0	\$0	\$0	\$0	\$1,931,474	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Delta-Mendota Canal-California Aqueduct Intertie	\$24,399,087	\$0	\$0	\$0	\$0	\$0	\$0	\$24,399,087	\$0
Martinez Reservoir	\$617,604	\$0	\$0	\$0	\$0	\$0	\$0	\$617,604	\$0
Permanent Operating Facilities - Tracy	\$1,209,979	\$0	\$0	\$0	\$0	\$0	\$0	\$1,209,979	\$0
Plain View Water District - Distribution System	\$544,760	\$0	\$0	\$0	\$0	\$544,760	\$0	\$0	\$0
Shortcut Pipeline	\$4,725,196	\$0	\$0	\$0	\$0	\$0	\$0	\$4,725,196	\$0
Tracy Fish Collection Facility - Replace Transformers	\$18,716	\$0	\$0	\$0	\$0	\$0	\$0	\$18,716	\$18,716

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Tracy Fish Protection Facility	\$6,114,254	\$6,114,254	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tracy (Jones) Pumping Plant	\$25,930,750	\$0	\$0	\$0	\$0	\$0	\$0	\$25,930,750	\$0
Tracy Switchyard	\$2,561,553	\$0	\$0	\$0	\$0	\$0	\$0	\$2,561,553	\$0
Ygnacio Canal	\$373,012	\$0	\$0	\$0	\$0	\$0	\$0	\$373,012	\$0
Ygnacio Pumping Plant	\$51,194	\$0	\$0	\$0	\$0	\$0	\$0	\$51,194	\$0
Friant Division							\$0		
Delano-Earlimart Irrigation District - Distribution System	\$10,560,037	\$0	\$0	\$0	\$0	\$10,560,037	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Exeter Irrigation District - Distribution System	\$3,485,126	\$0	\$0	\$0	\$0	\$3,485,126	\$0	\$0	\$0
Friant Dam & Reservoir	\$30,115,010	\$0	\$0	\$0	\$0	\$0	\$0	\$30,115,010	\$0
Friant-Kern Canal	\$98,534,937	\$0	\$0	\$0	\$0	\$0	\$0	\$98,534,937	\$0
Ivanhoe Irrigation District - Distribution System	\$2,150,984	\$0	\$0	\$0	\$0	\$2,150,984	\$0	\$0	\$0
Lake Woollomes - Recreation Facilities	\$54,500	\$0	\$0	\$27,250	\$0	\$0	\$0	\$27,250	\$0
Lindmore Irrigation District - Distribution System	\$4,991,841	\$0	\$0	\$0	\$0	\$4,991,841	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Lindsay-Strathmore Irrigation District - Distribution System	\$2,248,038	\$0	\$0	\$0	\$0	\$2,248,038	\$0	\$0	\$0
Madera Canal	\$3,780,702	\$0	\$0	\$0	\$0	\$0	\$0	\$3,780,702	\$0
Madera Irrigation District - Distribution System	\$13,496,356	\$0	\$0	\$0	\$0	\$13,496,356	\$0	\$0	\$0
Permanent Operating Facilities - Friant	\$318,852	\$0	\$0	\$0	\$0	\$0	\$0	\$318,852	\$0
San Joaquin River Restoration Program	\$452,788	\$452,788	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Shafter-Wasco Irrigation District - Distribution System	\$8,366,979	\$0	\$0	\$0	\$0	\$8,366,979	\$0	\$0	\$0
South San Joaquin Municipal Utility District - Distribution System	\$9,227,718	\$0	\$0	\$0	\$0	\$9,227,718	\$0	\$0	\$0
Stone Corral Irrigation District - Distribution System	\$1,888,000	\$0	\$0	\$0	\$0	\$1,888,000	\$0	\$0	\$0
Tea Pot Dome Water District - Distribution System	\$1,665,816	\$0	\$0	\$0	\$0	\$1,665,816	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Sacramento River Division									
4-M Water District - Turnout	\$266,546	\$0	\$0	\$0	\$0	\$0	\$0	\$266,546	\$0
Colusa County Water District - Distribution System	\$17,077,314	\$0	\$0	\$0	\$0	\$17,077,314	\$0	\$0	\$0
Colusa County Water District - Relift Pumping Plant	\$12,633,482	\$0	\$0	\$0	\$0	\$0	\$0	\$12,633,482	\$0
Colusa Service Area - Cortina - Relift Pumping Plant	\$141,792	\$0	\$0	\$0	\$0	\$0	\$0	\$141,792	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Colusa Service Area - Davis - Relift Pumping Plant	\$180,305	\$0	\$0	\$0	\$0	\$0	\$0	\$180,305	\$0
Colusa Service Area - Other - Relift Pumping Plant	\$1,949	\$0	\$0	\$0	\$0	\$0	\$0	\$1,949	\$0
Corning Canal	\$5,762,097	\$0	\$0	\$10,805	\$0	\$0	\$0	\$5,751,292	\$0
Corning Canal Pumping Plant	\$2,529,063	\$0	\$0	\$0	\$0	\$0	\$0	\$2,529,063	\$0
Corning Water District - Relift Pumping Plant	\$2,779,835	\$0	\$0	\$0	\$0	\$0	\$0	\$2,779,835	\$0
Corning Water District - Distribution System	\$3,866,292	\$0	\$0	\$0	\$0	\$3,866,292	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Dunnigan Water District - Distribution System	\$6,822,123	\$0	\$0	\$0	\$0	\$6,822,123	\$0	\$0	\$0
Dunnigan Water District - Relift Pumping Plant	\$1,700,384	\$0	\$0	\$0	\$0	\$0	\$0	\$1,700,384	\$0
Glenn Valley Water District - Relift Pumping Plant	\$1,048,845	\$0	\$0	\$0	\$0	\$0	\$0	\$1,048,845	\$0
Glide Irrigation District - Relift Pumping Plant	\$1,077,496	\$0	\$0	\$0	\$0	\$0	\$0	\$1,077,496	\$0
Kanawha Water District - Relift Pumping Plant	\$2,753,824	\$0	\$0	\$0	\$0	\$0	\$0	\$2,753,824	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
La Grande Water District - Turnout	\$244,897	\$0	\$0	\$0	\$0	\$0	\$0	\$244,897	\$0
Orland-Artois Water District - Distribution System	\$23,702,915	\$0	\$0	\$0	\$0	\$23,702,915	\$0	\$0	\$0
Orland-Artois Water District - Relift Pumping Plant	\$7,496,789	\$0	\$0	\$0	\$0	\$0	\$0	\$7,496,789	\$0
Permanent Operating Facilities - Arbuckle	\$1,775,258	\$0	\$0	\$0	\$0	\$0	\$0	\$1,775,258	\$0
Permanent Operating Facilities - Red Bluff	\$59,410	\$0	\$0	\$0	\$0	\$0	\$0	\$59,410	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Permanent Operating Facilities - Red Bluff Suboffice	\$3,802,995	\$0	\$0	\$0	\$0	\$0	\$0	\$3,802,995	\$0
Permanent Operating Facilities - Willows	\$390,730	\$0	\$0	\$0	\$0	\$0	\$0	\$390,730	\$0
Permanent Operating Facilities - Willows Suboffice	\$966,294	\$0	\$0	\$0	\$0	\$0	\$0	\$966,294	\$0
Pilot Research Pumping Plant [PL 102-575, Sec. 3406(b)(10)]	\$20,858,214	\$0	\$0	\$0	\$19,809,945	\$0	\$0	\$1,048,269	\$0
Proberta Water District - Relift Pumping Plant	\$172,158	\$0	\$0	\$0	\$0	\$0	\$0	\$172,158	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Red Bluff Diversion Dam	\$10,718,478	\$1,759,344	\$0	\$0	\$0	\$0	\$0	\$8,959,134	\$1,631,189
Red Bluff Pumping Plant	\$178,174,932	\$0	\$0	\$0	\$178,174,932	\$0	\$0	\$0	\$0
Tehama-Colusa Canal	\$205,461,879	\$39,298,924	\$0	\$3,500	\$0	\$0	\$54,450,000	\$111,709,455	\$26,510,321
Westside Water District - Relift Pumping Plant	\$7,002,377	\$0	\$0	\$0	\$0	\$0	\$0	\$7,002,377	\$0
San Felipe Division									
Archeological Studies	\$104,509	\$0	\$0	\$104,509	\$0	\$0	\$0	\$0	\$0
Coyote Pumping Plant	\$18,167,013	\$0	\$0	\$1,816,701	\$0	\$16,350,312	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Coyote Pumping Plant - 115 kv line	\$2,146,829	\$0	\$0	\$214,683	\$0	\$1,932,146	\$0	\$0	\$0
Fish & Wildlife Facility - San Felipe	\$334,939	\$0	\$0	\$33,494	\$0	\$301,445	\$0	\$0	\$0
Hollister Canal and Conduit	\$28,830,368	\$0	\$0	\$2,883,037	\$0	\$25,947,331	\$0	\$0	\$0
Pacheco Conduit	\$33,024,632	\$0	\$0	\$3,302,463	\$0	\$29,722,169	\$0	\$0	\$0
Pacheco Pumping Plant	\$33,400,837	\$0	\$0	\$3,340,084	\$0	\$30,060,753	\$0	\$0	\$0
Pacheco Substation	\$266,383	\$0	\$0	\$26,638	\$0	\$239,745	\$0	\$0	\$0
Pacheco Tunnel	\$83,664,404	\$0	\$0	\$8,366,440	\$0	\$75,297,964	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Permanent Operating Facilities - San Felipe	\$260,247	\$0	\$0	\$26,025	\$0	\$234,222	\$0	\$0	\$0
San Benito County Recreation Facilities	\$257,568	\$0	\$0	\$128,784	\$0	\$0	\$0	\$128,784	\$0
San Justo Dam & Reservoir	\$48,102,786	\$0	\$0	\$4,810,279	\$0	\$43,292,507	\$0	\$0	\$0
Santa Clara Tunnel & Conduit	\$75,398,296	\$0	\$0	\$7,539,830	\$0	\$67,858,467	\$0	\$0	\$0
Security Improvements - San Felipe	\$247,305	\$0	\$0	\$247,305	\$0	\$0	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
San Joaquin Division									
San Luis Unit - Land Retirement [PL 102-575, Sec. 3408(h)(1)]	\$2,365,332	\$0	\$0	\$0	\$2,365,332	\$0	\$0	\$0	\$0
SJBAP Open Lateral & Newman Canal [PL 102-575, Sec. 3406(d)]	\$5,263,176	\$0	\$0	\$0	\$5,263,176	\$0	\$0	\$0	\$0
SJBAP-Bear Creek [PL 102-575, Sec. 3406(d)]	\$13,083,844	\$0	\$0	\$0	\$13,083,844	\$0	\$0	\$0	\$0
SJBAP-IL4 [PL 102-575, Sec. 3406(d)]	\$2,674,866	\$0	\$0	\$0	\$2,674,866	\$0	\$0	\$0	\$0
San Luis Unit									

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Arroyo Pasajero	\$373,273	\$0	\$0	\$205,300	\$0	\$0	\$0	\$167,973	\$0
City of Huron - Distribution System	\$76,012	\$0	\$0	\$0	\$0	\$76,012	\$0	\$0	\$0
Coalinga Canal	\$8,670,356	\$0	\$0	\$0	\$0	\$0	\$0	\$8,670,356	\$0
Dos Amigos Pumping Plant	\$31,878,063	\$0	\$0	\$17,485,606	\$0	\$0	\$0	\$14,392,457	\$0
Dos Amigos Switchyard	\$594,700	\$0	\$0	\$323,883	\$0	\$0	\$0	\$270,817	\$0
Fish & Wildlife Facility - San Luis	\$48,900	\$0	\$0	\$26,895	\$0	\$0	\$0	\$22,005	\$22,005
Lemoore NAS - Distribution System	\$1,139,037	\$0	\$0	\$0	\$0	\$1,139,037	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Little Panoche Creek Detention Dam & Reservoir	\$3,789,791	\$0	\$0	\$2,075,795	\$0	\$0	\$0	\$1,713,997	\$0
Little Panoche Creek Detention Dam & Reservoir (Safety of Dams)	\$14,524	\$0	\$6,536	\$7,988	\$0	\$0	\$0	\$0	\$0
Los Banos Creek Detention Dam & Reservoir	\$5,144,073	\$0	\$0	\$1,419,032	\$0	\$0	\$0	\$3,725,041	\$0
Los Banos Creek Detention Dam & Reservoir (Safety of Dams)	\$23,964	\$0	\$10,784	\$13,180	\$0	\$0	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Los Banos Creek Detention Dam & Reservoir - Recreation Facilities	\$17,074	\$0	\$0	\$9,391	\$0	\$0	\$0	\$7,683	\$0
Los Banos Substation - 70 kv Breaker	\$428,450	\$0	\$0	\$0	\$0	\$0	\$0	\$428,450	\$0
O'Neill Dam, Forebay & Wasteway	\$8,424,155	\$0	\$0	\$4,620,058	\$0	\$0	\$0	\$3,804,097	\$0
O'Neill Dam, Forebay & Wasteway (Safety of Dams)	\$12,018,091	\$0	\$5,408,141	\$6,609,950	\$0	\$0	\$0	\$0	\$0
O'Neill Dam, Forebay & Wasteway - Recreation Facilities	\$3,632,540	\$0	\$0	\$1,997,897	\$0	\$0	\$0	\$1,634,643	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
O'Neill Pumping Plant	\$11,345,364	\$0	\$0	\$0	\$0	\$0	\$0	\$11,345,364	\$0
O'Neill Pumping Plant Intake Channel	\$1,591,809	\$0	\$0	\$0	\$0	\$0	\$0	\$1,591,809	\$0
O'Neill Pumping Plant Switchyard	\$212,474	\$0	\$0	\$0	\$0	\$0	\$0	\$212,474	\$0
Permanent Operating Facilities - San Luis	\$230,708	\$0	\$0	\$0	\$0	\$0	\$0	\$230,708	\$0
Permanent Operating Facilities - State-Federal	\$8,717,720	\$0	\$0	\$4,794,746	\$0	\$0	\$0	\$3,922,974	\$0
Pleasant Valley Pumping Plant	\$9,638,101	\$0	\$0	\$0	\$0	\$0	\$0	\$9,638,101	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
San Luis Canal	\$199,421,183	\$0	\$0	\$109,305,678	\$0	\$0	\$0	\$90,115,505	\$0
San Luis Canal - Recreation Facilities	\$561	\$0	\$0	\$308	\$0	\$0	\$0	\$252	\$0
San Luis Canal Turnouts	\$18,232,186	\$0	\$0	\$0	\$0	\$0	\$0	\$18,232,186	\$0
San Luis Drain	\$59,188,403	\$0	\$0	\$6,806,851	\$0	\$0	\$0	\$52,381,552	\$0
San Luis Relift Pumping Plant (Pleasant Valley Water District)	\$1,362,467	\$0	\$0	\$0	\$0	\$0	\$0	\$1,362,467	\$0
San Luis Relift Pumping Plant (Westlands Water District)	\$36,874,636	\$0	\$0	\$0	\$0	\$0	\$0	\$36,874,636	\$0
San Luis Dam & Reservoir	\$109,409,653	\$0	\$0	\$61,425,431	\$0	\$0	\$0	\$47,984,222	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
San Luis Dam & Reservoir - Recreation Facilities	\$3,469,879	\$0	\$0	\$1,908,433	\$0	\$0	\$0	\$1,561,446	\$0
San Luis Switchyard	\$1,056,316	\$0	\$0	\$574,993	\$0	\$0	\$0	\$481,323	\$0
Security Improvements - San Luis	\$1,380,761	\$0	\$0	\$1,380,761	\$0	\$0	\$0	\$0	\$0
W. R. Gianelli Pump-Generating Plant	\$67,274,969	\$0	\$0	\$36,889,008	\$0	\$0	\$0	\$30,385,961	\$0
Westlands Water District - Distribution System	\$179,157,197	\$0	\$0	\$0	\$0	\$179,157,197	\$0	\$0	\$0
Shasta Division									
Carrier Current Equipment - Shasta	\$133,697	\$0	\$0	\$0	\$0	\$0	\$0	\$133,697	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Keswick Dam [PL 102-575, Sec. 3406(b)(11)] ⁵	\$13,429,968	\$0	\$0	\$0	\$2,581,549	\$0	\$0	\$10,848,418	\$0
Keswick Powerplant	\$22,025,521	\$0	\$0	\$0	\$0	\$0	\$0	\$22,025,521	\$0
Keswick-Carr Microwave System	\$3,445	\$0	\$0	\$0	\$0	\$0	\$0	\$3,445	\$0
Permanent Operating Facilities - Shasta	\$924,586	\$0	\$0	\$0	\$0	\$0	\$0	\$924,586	\$0
Radio Rain Gauges	\$643,302	\$0	\$0	\$0	\$0	\$0	\$0	\$643,302	\$0
Radio Stream Gauges	\$11,145	\$0	\$0	\$0	\$0	\$0	\$0	\$11,145	\$0
Security Improvements - Shasta	\$8,448,434	\$0	\$0	\$8,448,434	\$0	\$0	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Service Line to PCI Warehouse - Shasta	\$2,251	\$0	\$0	\$0	\$0	\$0	\$0	\$2,251	\$0
Shasta - Toyon 13.8 KV Line	\$40,404	\$0	\$0	\$0	\$0	\$0	\$0	\$40,404	\$0
Shasta - Tracy 230-kv Lines - General	\$48,191	\$0	\$0	\$0	\$0	\$0	\$0	\$48,191	\$0
Shasta 230-kv Switchyard (Shasta Division)	\$9,364,583	\$0	\$0	\$0	\$0	\$0	\$0	\$9,364,583	\$0
Shasta Dam & Reservoir [PL 102-575, Sec. 3406(b)(6)] ⁶	\$210,811,334	\$0	\$0	\$0	\$86,738,188	\$0	\$0	\$124,073,145	\$0
Shasta Powerplant	\$81,833,782	\$0	\$0	\$0	\$0	\$0	\$0	\$81,833,782	\$0
Toyon Pipeline	\$189,751	\$0	\$0	\$0	\$0	\$0		\$189,751	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Stanislaus (East Side) Division									
New Melones Dam & Reservoir	\$320,010,647	\$0	\$0	\$17,400,000	\$0	\$0	\$0	\$302,610,647	\$0
New Melones Powerplant	\$64,211,307	\$0	\$0	\$0	\$0	\$0	\$0	\$64,211,307	\$0
New Melones RSRCS - Roof Adm/Vhl St	\$378,917	\$0	\$0	\$0	\$0	\$0	\$0	\$378,917	\$0
Trinity River Division									
Bella Vista Water District - Distribution System	\$3,332,757	\$0	\$0	\$0	\$0	\$3,332,757	\$0	\$0	\$0
Buckhorn Dam PL [PL 102-575, Sec. 3406(b)(23)]	\$36,993,699	\$36,875,799	\$0	\$0	\$117,900	\$0	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Clear Creek Conveyance System	\$4,740,196	\$0	\$0	\$0	\$0	\$0	\$0	\$4,740,196	\$0
Clear Creek Powerplant 12-kv Standby	\$16,065	\$0	\$0	\$0	\$0	\$0	\$0	\$16,065	\$0
Clear Creek Switchyard	\$430,572	\$0	\$0	\$0	\$0	\$0	\$0	\$430,572	\$0
Clear Creek Tunnel	\$49,952,739	\$0	\$0	\$0	\$0	\$0	\$0	\$49,952,739	\$0
Cow Creek Conveyance System	\$2,700,306	\$0	\$0	\$0	\$0	\$0	\$0	\$2,700,306	\$0
CVP Radio Network - Trinity Division	\$54,642	\$0	\$0	\$0	\$0	\$0	\$0	\$54,642	\$0
Folsom Switchyard (Trinity River Division)	\$25,500	\$0	\$0	\$0	\$0	\$0	\$0	\$25,500	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Judge Francis Carr Powerhouse	\$42,238,196	\$0	\$0	\$0	\$0	\$0	\$0	\$42,238,196	\$0
Lewiston Diversion Dam	\$3,818,709	\$0	\$0	\$0	\$0	\$0	\$0	\$3,818,709	\$0
Lewiston Fish Hatchery	\$3,315,736	\$3,315,736	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lewiston Powerplant	\$440,687	\$0	\$0	\$0	\$0	\$0	\$0	\$440,687	\$0
Lewiston Temperature Curtain	\$955,214	\$955,214	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Permanent Operating Facilities - Trinity	\$355,261	\$0	\$0	\$0	\$0	\$0	\$0	\$355,261	\$0
Restoration - Lewiston Fish Hatchery	\$1,258,074	\$1,258,074	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Shasta 230-kv Switchyard (Trinity River Division)	\$290,001	\$0	\$0	\$0	\$0	\$0	\$0	\$290,001	\$0
Spring Creek Debris Dam & Reservoir	\$3,710,490	\$0	\$0	\$0	\$0	\$0	\$0	\$3,710,490	\$0
Spring Creek Powerplant	\$14,472,195	\$0	\$0	\$0	\$0	\$0	\$0	\$14,472,195	\$0
Spring Creek Powerplant 13.8-kv Standby	\$28,098	\$0	\$0	\$0	\$0	\$0	\$0	\$28,098	\$0
Spring Creek Switchyard	\$554,367	\$0	\$0	\$0	\$0	\$0	\$0	\$554,367	\$0
Spring Creek Tunnel	\$15,155,527	\$0	\$0	\$0	\$0	\$0	\$0	\$15,155,527	\$0
Tracy Switchyard	\$1,017,640	\$0	\$0	\$0	\$0	\$0	\$0	\$1,017,640	\$0
Trinity Dam & Reservoir	\$92,703,186	\$0	\$0	\$0	\$0	\$0	\$0	\$92,703,186	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Trinity Powerplant	\$11,987,121	\$0	\$0	\$0	\$0	\$0	\$0	\$11,987,121	\$0
Trinity River Basin Action Program	\$8,073,092	\$8,073,092	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Trinity River Restoration Project	\$313,445	\$0	\$0	\$0	\$0	\$0	\$0	\$313,445	\$313,445
Trinity Switchyard	\$384,174	\$0	\$0	\$0	\$0	\$0	\$0	\$384,174	\$0
Whiskeytown Dam & Reservoir	\$17,733,127	\$0	\$0	\$0	\$0	\$0	\$0	\$17,733,127	\$0
Whiskeytown Temperature Curtain	\$2,601,457	\$2,601,457	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Wintu Pumping Plant	\$1,159,763	\$0	\$0	\$0	\$0	\$0	\$0	\$1,159,763	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Leased to State of California									
Los Banos Waterfowl	\$40,767	\$40,767	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Mendota Waterfowl	\$86,147	\$86,147	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Merced National Wildlife	\$185,225	\$185,225	\$0	\$0	\$0	\$0	\$0	\$0	\$0
San Luis Waste Way	\$88,236	\$88,236	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Western Facilities									
Pacheco Pumping Plant Substation	\$1,337,677	\$0	\$0	\$133,768	\$0	\$1,203,910	\$0	\$0	\$0
Coyote Pumping Plant Substation	\$1,824,360	\$0	\$0	\$182,436	\$0	\$1,641,924	\$0	\$0	\$0

Facility	Plant-in-Service (Total)	Fish & Wildlife Activities (DAC)	Safety of Dams (DAC)	Other (DAC)	CVPIA (CNA)	Repayment Contracts (CNA)	Authorized Deferred Use (CNA)	Net Costs (SCRB)	Mitigation Cost ⁴
Tracy Substation 69 kv to Delta-Mendota Canal	\$2,464,394	\$0	\$0	\$0	\$0	\$0	\$0	\$2,464,394	\$0
Western - Other	\$342,476,124	\$0	\$0	\$0	\$0	\$8,568,500	\$0	\$333,907,624	\$0
Grand Total	\$3,693,719,669	\$102,344,970	\$31,810,865	\$335,957,141	\$340,872,120	\$597,617,151	\$56,875,000	\$2,228,242,422	\$28,495,676

1. The Cost Allocation Study represents the final cost allocation for CVP facilities subject to the 2030 repayment requirement. It also includes water service contracts, repayment contracts, and CVPIA facilities that have post-2030 repayment obligations. Costs for these facilities would be incorporated in the updated allocation resulting from the final CVP Cost Allocation Study but would continue to have separate repayment terms.
2. Excludes interest during construction (IDC).
3. Excludes Folsom safety-of-dams costs not in repayment (\$120,755,310).
4. Mitigation costs are included as part of the net costs allocated in SCRB.
5. Includes Keswick Fish Trap – CVPIA (\$2,581,549).
6. Includes Shasta Temperature Control Device - CVPIA (\$86,738,188).

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Key Terms

- **Amortization:** Pay off gradually over time by periodic payments of principal and interest.
- **Ancillary services:** Energy products used to help maintain grid stability and reliability. These services are ordinarily thought of as being transmission-related and not power-related products for the purposes of ratesetting and repayment.
- **Appraisal level:** A level of accuracy and effort associated with an engineering cost estimating technique to estimate the cost of constructing facilities. The estimate is generally acceptable to determine the overall magnitude of costs but would not be used to estimate costs for entering into contracts. Per Reclamation Directives and Standards FAC 09-01, appraisal level cost estimates are used in appraisal reports or the like to determine whether more detailed investigations of a potential project are justified. These estimates may be prepared from cost graphs, simple sketches, or rough general designs which use the available site-specific design data.
- **Authorized purpose:** A project purpose authorized by an act of Congress.
- **Base year:** The starting point year used to measure relative changes in an economic variable such as a general price index.
- **Biological opinion (BO):** An opinion issued by a Federal agency whether a proposed action may endanger listed species or destroy critical habitat.
- **Capitalization:** Converting a schedule of periodic values into a single (annualized) value by dividing the payments by a factor which is dependent on the interest rate selected.
- **Capitalized value:** The single value developed through the capitalization process.
- **Climate change:** A change in the state of the climate identified by using statistical tests, by changes in the mean and/or other statistical properties, measured over an extended period, typically decades or longer.
- **Construction costs:** Costs of constructing physical project features including contract (direct) costs, land and land rights, relocation of existing property, clearing and restoring lands, service facilities, designs, investigations, project management, and other general project-specific expenses.
- **Construction in abeyance:** Reclamation construction costs associated with temporarily suspended construction activities that Congress has not de-authorized.

- **Cost allocation:** The process of distributing the costs of a multipurpose project among its authorized purposes in order to determine actual reimbursable and non-reimbursable costs and the basis for assignment of costs to beneficiaries for repayment.
- **Cost sharing:** The value of non-Federal partners' monetary or in-kind contributions and that portion of the costs of a federally assisted project or program that is not borne by the Federal Government.
- **CVP yield:** Water from the Central Valley Project that is available for use.
- **Deferred costs:** Costs already incurred but not yet assigned to an authorized project beneficiary for repayment because of operation of law or policy.
- **Diminishable facility:** A multipurpose facility that can be diminished in size (resized) for a single-purpose use.
- **Direct assigned costs:** Costs that have been directly assigned for repayment (or designated as non-reimbursable) based on legislation, policy, and/or agreement and thus not subject to the cost allocation process.
- **Economic benefits:** The value of project accomplishments measured in monetary terms, which is measured by the amount that most people are willing to pay to use a given quantity of a good or service or the smallest amount that most people are willing to accept to forego the use of a given quantity of a good or service.
- **Economic life:** The period during which an asset is expected to yield a return.
- **Financially integrated:** The CVP is financially integrated in that repayment is applied to the total cost of the project and not individual project features.
- **Gross Domestic Product (GDP):** The total output of goods and services produced within a given country in a particular time period.
- **Hydropower:** Electric power generated whenever water impounded by a dam is routed through the penstocks and then spun through turbines. It can also be generated in run of the river situations when it flows through in-stream facilities.
- **Implicit price deflator (also referred to GDP deflator):** A measure of price inflation/deflation with respect to a specific base year calculated as the ratio of nominal GDP relative to real GDP.
- **Incremental costs:** Costs added to a plan to accommodate the addition of a purpose or objective, or for increasing the scale of service to one or more purposes.
- **Incremental Level 4 water:** The additional increment of water above Level 2 required for optimal wetland habitat management.

- Joint cost: Costs which serve more than one, and often several purposes or objectives measured as the difference between the total cost of the project and the separable costs across all project purposes.
- Joint cost factors (also referred to as remaining justifiable expenditure factors): The percentage of remaining joint costs distributed among each project purpose.
- Justifiable expenditure: The maximum amount of costs to be allocated to a project purpose and is the lesser of benefits attributable to a purpose and the cost of a hypothetical single-purpose alternative project generating the same level of benefits.
- Land fallowing: Leaving farmland unplanted for a season.
- Least cost alternative: An alternative project that will generate the same level of benefits at the lowest cost possible.
- Level 2 refuge water: The historical average refuge water deliveries specified in the 1989 Report. It is the baseline water deliveries required for wildlife habitat management.
- LIDAR: A surveying device that emits pulsed laser light to measure distance, Light Detection and Ranging.
- Long-term generation (LTGEN): A Reclamation-developed model for estimating power capacity on a monthly time step.
- Major cost driver: The material that causes a large change in a facility's cost.
- Market price: The price users or consumers may expect to pay to a third-party provider for an asset, product, or service.
- Mitigation: Projects, programs, or activities intended to offset or lessen adverse impacts to fish and wildlife resources (and other natural resources) caused by the construction and operation of a project.
- Multipurpose project: A project designed to serve more than one purpose. For example, a dam that supplies water for agricultural and domestic uses, provides flood control, and generates power.
- Non-diminishable facility: A multipurpose facility that cannot be reduced in size when estimating the single-purpose cost.
- Opportunity cost: The value of highest valued alternative use of that resource.
- Optimization model: A method for finding the most cost-effective or highest achievable performance under given constraints by maximizing desired factors and minimizing undesired one.

- Period 1 (first period): Conditions as represented in the 1975 CVP cost allocation update (under the two-period allocation/repayment approach).
- Period 2 (second period): Conditions under current and projected CVP operations and benefits (under the two-period allocation/repayment approach).
- Period of analysis: The period of analysis should be the shorter of (1) the period of time over which the plan, project, or activity being analyzed can reasonably be expected to have beneficial or adverse effects, or (2) a period of time not to exceed 100 years. In the context of the CAS, it represents a prospective 100-year timeframe.
- Plant-in-service: Facilities that have been completed and provide benefits to the project.
- PLEXOS: Energy market modeling software that estimates power benefits on an hourly basis.
- Preference power: The principle that public not-for-profit entities have the “first right” to purchase energy and capacity generated at Federal facilities. Generally such not-for-profit entities have preference to purchase Federal power at Federal water resource projects.
- Preference power customers: The not-for-profit entities that under Reclamation law and policy have preference and priority to power generated at Federal water resource projects. “First preference power customers” are a subset of preference power customers who are entitled to preference power because under Reclamation law they are defined as being within a county of origin (Trinity, Calaveras, and Tuolumne).
- Preference power generation: Generation produced from project facilities that is available to be marketed to the preference power customers.
- Present value: Incorporates the concept of the time value of money and measures in today’s dollars what the value of receiving a specific amount at some future date assuming a specified interest rate.
- Profit: Revenue generated by selling a product minus all costs of production; also referred to as net revenue.
- Project beneficiaries: The persons or groups who are legislatively authorized to receive benefits from the project.
- Project-use energy (PUE): Power and energy used for project operations, e.g., main conveyance pumping, designated drainage pumping, and other designated miscellaneous electric loads directly associated with the operation of the project.
- Prospective analysis: An analysis that focuses on projected future (prospective) conditions and outcomes.

- **Ratesetting:** The process of determining annual CVP water rates for irrigation and M&I purposes provided for in water service contracts.
- **Replacement, additions, and extraordinary maintenance (RAX):** Major nonrecurring operations or maintenance on a project facility to ensure the continued safe, dependable, and reliable delivery of authorized project benefits.
- **Reasonable and prudent alternatives (RPA):** Alternative methods of project implementation, offered in a biological opinion reaching a jeopardy or adverse modification conclusion that would avoid the likelihood of jeopardy to the species or adverse modification of critical habitat.
- **Remaining joint costs:** The costs of joint use facilities that remain after all separable cost have been deducted from total project costs.
- **Remaining justifiable expenditure:** The justifiable expenditure for a purpose minus the separable costs for that purpose.
- **Resource adequacy:** Concept used by the California Independent System Operator to ensure that sufficient capacity exists to ensure reliable operation of the grid.
- **Safety of Dams (SOD):** A Reclamation program to either retrofit or modify dams to reduce or eliminate potential hazards associated with seismic and/or hydrologic risk of failure. It is not a project purpose.
- **Separable costs:** The costs that result by taking the difference between the cost of the multipurpose project and the cost of the same project with the purpose omitted. A series of cost estimates should be prepared representing the multipurpose project without each purpose. A purpose's separable costs would not only include its specific costs, but also the costs of multipurpose facilities which were needed for the addition of that purpose.
- **Separable costs-remaining benefits (SCRB):** A method of cost allocation where each purpose in a multipurpose project is assigned the separable costs of including that purpose plus a portion of the remaining joint costs.
- **Separable joint costs:** The portion of multipurpose facility costs attributed to a single purpose.
- **Single-purpose alternative (SPA):** The cost of the most economical (least cost) alternative which would likely be built as a single-purpose Federal project, and that would provide equivalent benefits for a single purpose as the multipurpose project provides.
- **Single-purpose facility:** Costs of the most economical alternative which would likely be built as a Federal project to provide equivalent benefits for a single purpose.
- **Specific costs:** Costs of individual physical facilities and other costs that serve only a single purpose.

- Sub-allocation: Separating an authorized project purpose or function into smaller constituent components (e.g., sub-purposes) for the purposes of a cost allocation.
- Sub-purpose: Individual component that comprises a project purpose.
- Thermal power: Power sourced from heat energy, historically steam, but can also include natural gas or nuclear-fueled generators.
- Time value of money: The concept that money available at the present time is worth more than the same amount in the future due to its potential earning capacity.
- Two cost allocation and two-period repayment approach: A modified cost allocation/repayment approach used in the CVP CAS to recognize both the historical and prospective benefits of the project.
- Water rights: The right to use water from a river, stream, body of water, or source of groundwater.
- Water year type: The hydrologic classification of individual water years; for the CAS, five water year types were used: wet, above average, below average, dry, and critical.
- Weighted average: An average resulting from multiplying each component by a factor reflecting its importance.
- Wildlife refuge: A Federal area administered for the protection of fish and wildlife as well as wildlife management areas administered by the State of California and the Grasslands Resource Conservation District.

References

- California Energy Commission (CEC). 2015. Estimated Cost of New Renewable and Fossil Generation in California. March 2015.
- Central Valley Project Improvement Act (CVPIA) Refuge Water Supply Program. 2009. Independent Review Panel Report. Undelivered Water: Fulfilling the CVPIA Promise to Central Valley Refuges. November 3, 2009.
- Council on Environmental Quality (CEQ). 2013. Principles and Requirements for Federal Investments in Water Resources (PR&G). March 2013.
- GAO. *See* U.S. General Accounting Office.
- Engineering News-Record (ENR). Various Years. Construction Economics. <https://www.enr.com/economics>. Accessed October 2017.
- Reclamation. *See* U.S. Department of the Interior, Bureau of Reclamation.
- U.S. Department of Interior. 2000. Record of Decision, Trinity River Mainstem Fishery Restoration Final Environmental Impact Statement/Environmental Impact Report. Decision by the U.S. Department of Interior, December 2000.
- U.S. Department of the Interior, Bureau of Reclamation. 1989. Report on Refuge Water Supply Investigations, Central Valley Hydrologic Basin, California. Mid-Pacific Region. March 1989.
- _____. 1970. Central Valley Project California, Reallocation of CVP Costs. Mid-Pacific Region.
- _____. 1975. Changes Caused by the Reallocation of the Central Valley Project Costs. Short Form Reallocation. Mid Pacific Region. March 8, 1976.
- _____. 1988. Ratesetting Process, Irrigation Ratesetting Document, Central Valley Project, California. 1988.
- _____. 1993. Proposed Interim Ratesetting Policy Municipal and Industrial Water, Central Valley Project, California. Sacramento, California. December 1993.
- _____. 1995. Reclamation Manual, Directives and Standards (D&S), Final Cost Allocations (PEC-P01). Updated June 16, 2015.
- _____. 2001. Central Valley Project Cost Allocation Study. Mid-Pacific Region. May 2001.
- _____. 2007. Reclamation Manual, Directives and Standards (D&S), Cost Estimating (FAC 09-01). Updated July 20, 2016.

- _____. 2008. Reclamation Manual, Directives and Standards (D&S), Allocation of Operation, Maintenance, and Replacement Costs (PEC-P07). Updated July 24, 2015.
- _____. 2013a. Project Financial Statement, Central Valley Project, California-Consolidated. Mid-Pacific Region. September 2013.
- _____. 2013b. Reclamation Manual, Directives and Standards (D&S), Project Cost Allocations (PEC 01-02). Updated September 10, 2015.
- _____. Various Years. O&M Cost Index. <https://www.usbr.gov/assetmanagement/cost.html>. Accessed October 2017.
- U.S. General Accounting Office (GAO). 1992. Bureau of Reclamation Central Valley Project Cost Allocation Overdue and New Method Needed. Washington, D.C. March 31, 1992.
- U.S. Water Resources Council (WRC). 1983. Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. March 10, 1983.

80TH CONGRESS	{	HOUSE OF REPRESENTATIVES	{	DOCUMENT
<i>1st Session</i>				No. 146

CENTRAL VALLEY FEDERAL RECLAMATION PROJECT

L E T T E R

FROM

THE ACTING SECRETARY OF THE INTERIOR

TRANSMITTING

REPORT PRESENTED TO SECRETARY KRUG BY THE BUREAU OF RECLAMATION OF THIS DEPARTMENT ON AUGUST 6, 1946, ON THE CENTRAL VALLEY FEDERAL RECLAMATION PROJECT IN CALIFORNIA

FEBRUARY 24, 1947.—Referred to the Committee on Public Lands and ordered to be printed

THE SECRETARY OF THE INTERIOR,
Washington, February 24, 1947.

Hon. JOSEPH W. MARTIN, JR.,
Speaker of the House of Representatives

My DEAR MR. SPEAKER: Pursuant to the Reclamation Project Act of 1939, there is transmitted herewith a report presented to Secretary Krug by the Bureau of Reclamation of this Department on August 6, 1946, on the Central Valley Federal reclamation project in California.

This report was approved by the Secretary on December 3, 1946, and transmitted to President Truman on the same date. Copies of Acting Commissioner of Reclamation Warne's letter of August 6, 1946, transmitting the report to Secretary Krug and Secretary Krug's letter of December 3 to President Truman are enclosed.

On February 19 President Truman advised that he had no objection to the transmittal of the report to the Congress. A copy of the President's letter of February 19 is enclosed.

Sincerely yours,

OSCAR L. CHAPMAN,
Acting Secretary of the Interior.

THE WHITE HOUSE,
Washington, February 19, 1947.

The honorable the SECRETARY OF THE INTERIOR.

MY DEAR MR. SECRETARY: I have examined your report of December 3, 1946, on the allocation of costs and financial feasibility, Central Valley project, California, in which it is proposed that interest on the investment allocated to power be used for repayment of irrigation charges beyond the ability of water users to repay. I have no objection to your submitting the report to Congress for its consideration.

Sincerely yours,

HARRY S. TRUMAN.

DEPARTMENT OF THE INTERIOR,
Washington, December 3, 1946.

The PRESIDENT,
The White House.

MY DEAR MR. PRESIDENT: There is transmitted herewith a copy of a letter to me from the Acting Commissioner of Reclamation together with a report, which I have approved and adopted, concerning the Central Valley project, California, prepared by the Bureau of Reclamation pursuant of the Reclamation Project Act of 1939.

The report concerns the engineering feasibility of the project, the estimated total construction or capital costs, the proper allocation of these costs to the various project functions, and the probability of repayment of the reimbursable costs by the revenue-producing functions.

The Central Valley project has for its major purpose the transfer of Sacramento River water southward to the San Joaquin Valley where it is needed for irrigation and municipal and industrial water supply. At the same time, navigation, flood control, and salinity-repulsion benefits are accomplished as incidental parts of a well-rounded program of river regulation. Electric power is produced in quantities sufficient not only for project pumping but also through commercial sale to insure repayment of a large portion of total project costs.

The principal features of the project are the Shasta and Keswick Dams on the Sacramento River, Friant Dam on the San Joaquin River, the Delta Cross Channel, Contra Costa Canal, Delta Mendota Canal, Madera Canal, Friant-Kern Canal, the Contra Costa distribution system, hydroelectric plants at Shasta and Keswick Dams, a steam-electric plant at the project load center in the Delta area, and a transmission system to distribute power for project pumping requirements and to public and privately owned agencies for commercial sale. Friant, Shasta, and Keswick Dams are now largely constructed. Hydroelectric installations, planned at Shasta and Keswick, are partially complete. Madera Canal is essentially completed, and Contra Costa Canal is over two-thirds completed. Construction is under way in the Friant-Kern Canal, and initial contracts have been let on the Delta Mendota Canal. The Contra Costa distribution system, and such other irrigation distribution systems as may be required, remain to be constructed. The steam-electric generating plant likewise remains to be constructed. Of the project's electric transmission system, the line from Shasta through Oroville and Sacra-

mento to the Delta load center has been partially constructed, and work on it is currently in progress.

The Central Valley project provides navigation benefits in the Sacramento River, flood-control benefits in both the Sacramento and San Joaquin Valleys, and substantial salinity repulsion benefits in the Delta area. When completed, the project will provide an annual average of 2,026,700 acre-feet of water, largely for irrigation purposes. The power plants when completed will provide for project pumping and commercial sale at the load centers 2,121,000,000 kilowatt-hours of firm energy and 100,000,000 kilowatt-hours of saleable secondary energy annually, in association with a dependable capacity of 419,000 kilowatt-hours.

The basic plan of the project, and the design and construction of the physical features comprising it, have been thoroughly investigated by engineers competent and experienced in these matters. Upon the basis of these investigations I have found that the project has engineering feasibility and will provide the services indicated.

Authorized and established under the provisions of the Emergency Relief Appropriation Act of 1935 (49 Stat. 115) and the First Deficiency Appropriation Act, fiscal year 1936 (49 Stat. 1622), the project was reauthorized for construction by the Secretary of the Interior under the reclamation laws, except as otherwise specifically provided, by the act of August 26, 1937 (50 Stat. 580) and the act of October 17, 1940 (ch. 895, 54 Stat. 1193, 1199).

The actual expenditures toward construction of the project, through June 30, 1946, were \$168,588,006. The estimated cost of the completed project, based on current costs as evident on January 1, 1946, is \$384,314,000.

Thorough consideration has been given to the various possible bases of allocation of these costs, and the allocation that I have approved and adopted is as follows:

Navigation.....	\$18, 083, 000
Flood control.....	31, 444, 000
Irrigation (including \$3,074,600 for Contra Costa distribution system and \$18,815,900 for canal capacity for future water).....	221, 551, 600
Municipal and industrial water.....	9, 091, 800
Power.....	104, 143, 600

The Reclamation Project Act of 1939 provides that allocations to the purposes of flood control and navigation shall be nonreturnable and nonreimbursable. It has been determined that, in addition to meeting necessary operation and maintenance expenses, including cost of replacements, all of the returnable and reimbursable costs shown in the column above will probably be repaid by the year 2009, with the possible exception of that portion of the irrigation allocation designated canal capacity for future water. It is estimated that this repayment will be achieved, during this period, by net revenues from the various project functions as follows:

From irrigation (including \$3,074,600 from Contra Costa distribution system).....	\$58, 545, 475
From municipal and industrial water.....	29, 667, 932
From power.....	227, 757, 693

Under this determination, the cost allocated to canal capacity for future water (\$18,815,900) will probably be repaid within the same period if anticipated future storage on the Sacramento River system

materializes at an early date; in any event, full repayment of this item would probably be accomplished by the year 2012, by the application thereto of net project revenues after repayment of other project construction costs.

The indicated returns will be accomplished through the supplying of water for irrigation purposes under contracts made pursuant to section 9 (c) of the Reclamation Project Act of 1939, by contracting for the repayment of the cost of irrigation distribution systems under section 9 (d) of that act, and by the sale of commercial power and municipal and industrial water at rates fixed pursuant to section 9 (c) thereof.

Accordingly, I have found that all the estimated reimbursable construction costs of the project which are allocated to power, to municipal and industrial water supply, and to irrigation (less the portion to be repaid out of net revenue from the supplying of water for irrigation purposes) can probably be returned to the United States in net revenues from the sale of power and water for municipal and industrial purposes; that the portion allocated to irrigation to be repaid out of net revenues from the supplying of water for irrigation purposes probably can be so returned; and that the returnable and repayable allocations, together with the allocations to flood control and navigation, equal the total estimated cost of the project.

The allocations to flood control and navigation have been the subject of consultation with the Secretary of War and the Chief of Engineers. The Secretary of War has not concurred fully in these allocations. The differences, and the reasons for adoption of the allocations herein presented, are made clear in the correspondence which is reproduced in appendix C.

Section 9 of the Reclamation Project Act of 1939 authorizes the concurrent submission of this report to you and to the Congress. I have deemed it desirable to present the matter to you first. I expect, however, to present it, and a copy of this letter, to the Congress promptly, unless you have objections.

Sincerely yours,

J. A. KRUG,
Secretary of the Interior.

DEPARTMENT OF THE INTERIOR,
BUREAU OF RECLAMATION,
Washington 25, D. C., August 6, 1946.

THE SECRETARY OF THE INTERIOR.

SIR: I submit herewith the report of the Bureau of Reclamation on the allocation of costs and feasibility of the Central Valley project, California.

The report has been prepared pursuant to section 7 (b) of the Reclamation Project Act of 1939, which authorizes the Secretary of the Interior, in the case of projects under construction when that act became law and for which no repayment contracts had been executed, to make allocations of costs in accordance with the provisions of section 9 thereof. Pursuant to the requirements of section 9, the following allocations of the estimated total construction cost (\$384,314,000) of the project at present authorized by law are made, as explained in detail in the report:

Irrigation (including Contra Costa distribution system, \$3,074,600; and canal capacity for future water, \$18,815,900) -----	\$221, 551, 600
Power-----	104, 143, 600
Municipal water and industrial water-----	9, 091, 800
Navigation-----	18, 083, 000
Flood control-----	31, 444, 000
Total allocations-----	384, 314, 000

Although considerable recreational and fish conservation benefits will accrue by reason of the project, no allocation of costs has been made to either of these functions, nor to the function of national security. Similarly while large benefits are expected to accrue to the region by virtue of accelerating its industrial and agricultural growth, no allocations are assigned to these purposes.

As demonstrated in detail in the report, the return of the reimbursable construction costs within a reasonable period may be anticipated with assurance.

Delivery of water for irrigation purposes on a canal-side and river-bank basis under contracts made pursuant to section 9 (c) of the Reclamation Project Act of 1939, will, in addition to meeting the expenses of operation, maintenance, and replacement attributable thereto, provide net revenues of \$55,470,875 by the year 2009 (44 years following the time in which it is estimated that full utilization will be made of the project's irrigation water supply features), taking into account the possibility that the farmers' ability to pay for irrigation water may at times be reduced below levels which now appear wholly reasonable and proper. That figure is adopted as the measure of what can probably be repaid by the water users toward the estimated cost allocated to the project's central irrigation features. In addition, the beneficiaries of the Contra Costa irrigation water distribution system can probably repay the entire cost thereof, estimated to be \$3,074,600, as well as the expense of operating and maintaining that system.

In the event of timely construction of certain storage reservoirs in the Sacramento River system, the amount of \$18,815,900 allocated to canal capacity for future water can probably be repaid not later than the year 2009 by irrigators who will receive water stored in those reservoirs and conveyed by means of the enlarged canal capacity that is provided. In any event, the application against such costs of the net revenues from the project after other construction costs have been repaid should lead to repayment of those costs by the year 2012.

The sale of water for purposes of municipal water supply, industrial uses, and other miscellaneous purposes at rates fixed pursuant to section 9 (c) of the 1939 act can reasonably be expected to provide net revenues, in addition to meeting customary operating expenses attributable thereto, of \$29,667,932 for application against project construction costs by the year 2009.

The sale of commercial power at rates fixed pursuant to section 9 (c) of the 1939 act, together with revenues resulting from the use of power in the project operations of providing irrigation and municipal water, can be expected to provide by the year 2009, \$227,757,693 in net revenues available for application against project construction costs. Net power revenues will have accomplished repayment of the construction costs allocated to power by the year 2005 which is

50 years from the time it is estimated that all commercial power features will have been constructed. Power revenues will also meet the operation, maintenance, and replacement expenses attributable to the development and sale of commercial power.

In addition to the foregoing, any operation, maintenance, and replacement expenses attributable to purposes, the capital costs of which are nonreimbursable, will be met by the revenue-producing features of the project.

It is thus apparent that all of the estimated reimbursable construction costs of the project allocated to power, municipal water supply, and other purposes and to irrigation (less the portion to be repaid out of revenues derived from supplying irrigation water) can probably be returned to the United States in net revenues from the sale of power and water for municipal industrial and miscellaneous purposes; that the portion allocated to irrigation to be repaid out of net revenues from the supplying of water for irrigation purposes probably can be so returned; and that the returnable and repayable allocations, together with the allocations to flood control and navigation, equal the total estimated cost of the project.

As indicated in the report, thorough investigation of the basic plan of the project and the design and construction of its individual features by engineers who are competent and experienced in such matters have established the project's engineering feasibility to provide the various services for which the project was established.

I therefore recommend that you approve and adopt the enclosed report and the allocations, determinations, and findings made therein, and submit the same to the President and the Congress pursuant to the Reclamation Act of 1939.

Respectfully,

WILLIAM E. WARNE,
Acting Commissioner.

DECEMBER 3, 1946.

The enclosed report and all the allocations, determinations, and findings set forth therein are hereby approved and adopted.

J. A. KRUG,
Secretary of the Interior.

REPORT ON THE ENGINEERING FEASIBILITY, THE TOTAL ESTIMATED COSTS, AND THE ALLOCATION AND PROBABLE REPAYMENT OF THESE COSTS, OF THE CENTRAL VALLEY PROJECT, CALIFORNIA

INTRODUCTION

1. This report presents an allocation of the estimated capital costs of the Central Valley project and a study of their probable repayment. It has been compiled to comply with the requirements of sections 7 (b) and 9 of the Reclamation Project Act of 1939.

2. Section 7 (b) of the act provides, in substance, that for any project under construction when that legislation was enacted, and with respect to which contracts had not been executed which would effect the return of the reimbursable project costs, allocations of cost might be made in accordance with section 9 of the act. Section 9 specifies

that the Secretary of the Interior shall submit a report and findings to the President and the Congress relative to:

- (1) The engineering feasibility of the proposed construction.
- (2) The estimated cost of the proposed construction.
- (3) The part of the estimated cost which can properly be allocated to irrigation and probably be repaid by the water users.
- (4) The part of the estimated cost which can properly be allocated to power and probably be returned to the United States in net power revenues.
- (5) The part of the estimated cost which can properly be allocated to municipal water supply or other miscellaneous purposes and probably be returned to the United States.

By section 9 (b), the Secretary of the Interior is authorized, after consultation with the Chief of Engineers and the Secretary of War, to allocate "to flood control or navigation the part of said total estimated cost which the Secretary of the Interior may find to be proper."

3. The legislation referred to above makes specific provision for allocating costs to the following project functions which are listed in the order of priority shown by the statutes authorizing the Central Valley project: Navigation, flood control, irrigation, domestic uses (municipal water supply), power, and miscellaneous purposes.

4. The project functions of salinity repulsion, fish protection, and recreation are not specifically mentioned in the legislation. It is concluded that salinity repulsion may be classified as a supplemental irrigation function, and fish protection and recreation as miscellaneous purposes, although insofar as fish protection is achieved by maintenance of stream flow during the spawning season it is operationally classifiable as river regulation. The allocation to be made to the function of power is taken as the cost applicable to power for sale beyond project needs, which for the purposes of the report is designated commercial power. Power costs applicable to project pumping are assigned to the appropriate functions of irrigation or municipal water supply.

5. Among the various statutes authorizing the Central Valley project, the purposes of the project are declared to be:

* * * *Provided further*, That the entire Central Valley project, California, heretofore authorized and established under the provisions of the Emergency Relief Appropriation Act of 1935 (49 Stat. 115) and the First Deficiency Appropriation Act, fiscal year 1936 (49 Stat. 1622), is hereby reauthorized and declared to be for the purposes of improving navigation, regulating the flow of the San Joaquin River and the Sacramento River, controlling floods, providing for the storage and for the delivery of the stored waters thereof, for the reclamation of arid and semiarid lands of Indian reservations, and other beneficial uses, and for the generation and sale of electric energy as a means of financially aiding and assisting such undertakings and in order to permit the full utilization of the works constructed to accomplish the aforesaid purposes.

Provided further, That except as herein otherwise specifically provided, the provisions of the reclamation law, as amended, shall govern the repayment of expenditures and the construction, operation, and maintenance of the dams, canals, power plants, pumping plants, transmission lines, and incidental works deemed necessary to said entire project, and the Secretary of the Interior may enter into repayment contracts, and other necessary contracts, with State agencies, authorities, associations, persons, and corporations, either public or private, including all agencies with which contracts are authorized under the reclamation law, and may acquire by proceedings in eminent domain, or otherwise, all lands, rights-of-way, water rights, and other property necessary for said purposes: *And provided further*, That the said dam and reservoirs shall be used, first, for river regulation, improvement of navigation, and flood control; second, for irrigation and domestic uses; and, third, for power (act of August 26, 1937, 50 Stat. 850).

* * * *Provided further*, That the entire Central Valley project, California * * * is hereby reauthorized and declared to be for the purposes of improving navigation, regulating the flow of the San Joaquin River and the Sacramento River, controlling floods, providing for storage and for the delivery of the stored waters thereof, for construction under the provisions of the Federal reclamation laws of such distribution systems as the Secretary of the Interior deems necessary in connection with lands for which said stored waters are to be delivered, for the reclamation of arid and semiarid lands, and lands of Indian reservations, and other beneficial uses, and for the generation and sale of electric energy as a means of financially aiding and assisting such undertakings, and in order to permit the full utilization of the works constructed to accomplish the aforesaid purposes (act of October 17, 1940, ch. 895, 54 Stat. 1198, 1199).

THE GENERAL CHARACTER OF THE CENTRAL VALLEY PROJECT

6. The Central Valley of California embraces an area roughly 400 miles long by 60 miles wide at its greatest extent, lying between the Sierra Nevada on the east and the coastal ranges on the west, drained by the Sacramento River in the north and the San Joaquin River and the Tulare Lake tributary streams in the south. The occasion for a Central Valley project arose basically from the fact that the water resources within this area are distributed by nature neither seasonally nor geographically according to the needs of man. The Sacramento Valley has only about one-third of the agricultural land but two-thirds of the water, while the San Joaquin Valley has two-thirds of the agricultural land but only about one-third of the water. The seasonal distribution of precipitation is such, moreover, that although cultivable areas of the valley receive no significant rainfall during the growing summer months, heavy run-off from the mountain areas during the wet winter months, if uncontrolled, threatens frequent and sometimes serious damage from flood.

7. Because of richness of soil and climatic conditions favorable to the culture of many crops, some of which cannot be grown to such advantage elsewhere in the United States, water resources had for a long time been developed and exploited on a local basis to such an extent that the valley became one of the richest areas of irrigated agriculture in the world. But this localized development of irrigation resources failed to redress the unbalance in geographical distribution of water, with the result that there were still great areas of rich land uncultivable for lack of water; and great resources of water needed for irrigation were not only wasted to this purpose, but constituted a continuing threat of flood as well. Moreover, much land already developed had an insufficient or precarious water supply because local irrigation developments in many places exceeded the capacity of local water resources: Serious lowering of the ground-water table over wide areas in the southern and western parts of the valley, frequent heavy crop losses in drought years, and the tapping of the rivers for upstream irrigation during the dry season to the extent that rich delta lands were sometimes damaged and frequently threatened by salinity intrusion from the sea, were problems of long standing.

8. To meet this situation, the idea of a great transfer of surplus water from the northern to the southern valley was long studied and advocated. But although hydrologic and other investigations were conducted by both State and Federal agencies, and preliminary plans developed by the State of California and by the Bureau of Reclamation over a long period, no definite Federal action was taken to make

CENTRAL VALLEY FEDERAL RECLAMATION PROJECT

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the plan a reality until 1935. On September 10, 1935, the President, acting under the Emergency Relief Appropriation Act of 1935 (49 Stat. 115), provided the initial funds for construction of the project by the Department of the Interior, specifying that the funds were to be reimbursable in accordance with the reclamation laws (act of June 17, 1902, 32 Stat. 388) as amended and supplemented. The finding of feasibility required by the reclamation laws was approved by the President on December 2, 1935.

9. The Central Valley project as herein considered is confined to the initial features which are at present authorized by law, and should not be confused with the complete basin-wide development of the water resources of the Central Valley Basin, which is the subject of a proposed Central Valley Basin, report now substantially completed. The authorized project, when first conceived, might have provided for the then apparent need for additional power and irrigation water in the Central Valley during a period of as much as 25 years. However, the demands of war have resulted in attracting to the area an unprecedented increase in population and industry. In addition, many members of the armed forces have been temporarily stationed in California during the war and desire to return and take up residence provided opportunities for a livelihood are available. These factors, combined with the natural growth, have created a situation which justifies a prediction that the power and water made available by these initial facilities will be fully utilized by 1965 and that the additional services to be provided by the next stage of basin development contemplated in the basin report will be fully justified by the foreseeable demand. This second stage is an orderly step and will fit into and supplement the initial development in such a way as to enhance rather than lessen the engineering and financial feasibility of the project and its repayment capabilities. In addition to providing means for service in areas not to be improved by the initial features it will permit, at an early date, the inclusion of lands adjacent to canals for which sufficient water is not available from initial reservoirs to permit full agricultural development.

10. The very complex nature of the project, caused by the inter-relationship of the authorized features, and the effect of other existing and proposed irrigation development makes necessary a high degree of flexibility with regard to water and cost allocations, operations, and contracts. Because of the complexity of the water exchange plan which forms the basis of the project, there cannot be any direct, exclusive, and unaltering relationship between individual water users or individual contracting organizations on the one hand, and all of the integral project features involved in the supply of water on the other hand. The fact that one of the most important functions of the project is the provision of supplemental water for the recharge of badly depleted ground-water supplies illustrates again the necessity of flexibility in all allocations and contracts, as adjustment of the amounts of water required will be necessary from time to time to achieve complete utilization of water supplies. Other adjustments will be necessary over a long period as additional features are added to the project providing new water supplies until the project reaches a state of equilibrium. For these reasons, it is planned that water for irrigation will be furnished under the provisions of section 9 (c) of the Reclamation Project Act of 1939 on a canal-side and river-bank basis.

11. It is important that a clear distinction be observed between the central features of the project which will provide common services, and the irrigation water distribution systems which serve a single contracting unit. As already indicated, water furnished by the project will be delivered to water users' organizations on a canal-side or river-bank basis. The contractual terms under which this water is furnished will both reflect and form a part of the financial structure and operational arrangements of the central group of common features which provide the project supply of water (and power). The centralized operation of the Central Valley project ends at the point where water is delivered on a canal-side or river-bank basis.

12. Whatever supplementary distribution systems for irrigation water are necessary or desirable, under the requirements of the reclamation law, will be the subject of individual and separate repayment contracts executed under authority of section 9 (d) of the aforesaid act and will have no direct relationship to the central operation, control, and financial accounting of the Central Valley project. Each such irrigation water distribution system, when found desirable or necessary, will be the subject of a separate investigation and will be developed compatibly with the requirements of the reclamation law. It is not possible at this stage of development to forecast with accuracy the number, extent, or cost of the distribution systems that may be desirable or necessary as ancillary features of the Central Valley project. The demand for water greatly exceeds supply; much of the land involved already is developed and already has one sort of distribution system or another; and a significant but not finally determined proportion of project water will be furnished as a supplement to inadequate existing supplies. The number, nature, and location of desirable supplementary distribution systems for irrigation water will necessarily depend upon which particular areas will receive the water available from the presently authorized project. The single such distribution system so far definitely considered and for which appropriations have been made is the Contra Costa distribution system (not to be confused with the Contra Costa canal).

DESCRIPTION OF FUNCTIONS

13. The Central Valley project, as authorized and at present partially constructed, will provide the following services when completed:

(a) *Navigation.*—A minimum flow of 5,000 cubic feet per second will be maintained in the Sacramento River at all points below Chico Landing except for certain months in extremely dry years. This, together with supplemental channel improvements upstream from the city of Sacramento as proposed by the Corps of Engineers, will increase the low-water depth approximately 3 feet over low-water readings of the recent past and provide a dependable navigable depth of 6 feet up to Colusa and thence 5 feet as far upstream as Chico Landing.

(b) *Flood control.*—The operation of Shasta Reservoir for flood-control purposes will be such as to prevent the maximum discharge, as required for the worst flood conditions between 1902 and 1913, from exceeding 79,000 cubic feet per second at Shasta Dam and 130,000 cubic feet per second at Ord Ferry. The operation of Miller-ton Lake for flood-control purposes will be such as to prevent the

maximum discharge under the worst flood conditions on the San Joaquin River, except one, between 1902 and 1943, from exceeding 8,000 cubic feet per second at Skaggs Bridge.

(c) *Salinity repulsion.*—The maintenance of a minimum flow of approximately 3,300 cubic feet per second at Antioch as proposed in operating schedules for Shasta (estimates range from 3,300 to 5,000 cubic feet per second, and no final figure is closely assured) is believed sufficient to prevent salinity intrusion in the Sacramento-San Joaquin delta, thereby preventing such extensive crop damage as has been common in the recent past while at the same time permitting more beneficial use of lands in the affected area.

(d) *Irrigation and municipal water.*—The proposed reservoir operation schedules, including the effect of that operation upon other related water sources, will assure a total annual average yield of 1,258,200 acre-feet of class I water and 768,500 acre-feet of class II water.¹ (Involved in the project operation is the transfer of 1,024,000 acre-feet of water from the delta in order to deliver 875,000 acre-feet annually to Mendota pool in exchange for San Joaquin water diverted by Friant Dam.) Of these totals Shasta Reservoir operation will provide 48,000 acre-feet for full irrigation of 22,000 acres of cropland and 68,000 acre-feet for municipal and industrial uses in Contra Costa County, 300,000 acre-feet for full irrigation of 100,000 acres in the Sacramento Valley, and 88,200 acre-feet for full irrigation of 29,500 acres in the lower San Joaquin, all of the Shasta water being class I. Millerton Lake will provide 266,000 acre-feet (class I and II) to the Madera irrigation district as primary supply for 52,500 acres of presently dry land, and as supplementary supply for about 91,000 acres of presently irrigated land. Millerton Lake will also provide 1,256,500 acre-feet (class I and II) to the upper (southern) San Joaquin Valley as a supply for approximately 338,000 acres of presently dry land plus a supplementary supply for about 410,000 acres of presently irrigated land. All distribution of water use as between presently dry land and as supplementary supply to presently irrigated land represents the best possible present estimates and plans, yet must be considered subject to some change in the course of development and operation.

(e) *Electric power.*—The combined generating facilities (Shasta and Keswick hydroelectric power plants and the Delta steam electric plant) as estimated on the basis of stream flow for a 20-year period will have assured capacity of 419,000 kilowatts and will produce annually 2,121,000,000 kilowatt-hours of firm energy and provide for 238,000,000 kilowatt-hours of secondary energy measured at load centers. Of these totals, 366,000,000 kilowatt-hours of firm energy and a peak demand of 94,000 kilowatts will be needed for project pumping, the remainder, 1,755,000,000 kilowatt-hours of firm energy associated with a dependable capacity of 325,000 kilowatts, plus 100,000,000 kilowatt-hours of the secondary energy, will be saleable. The energy will be delivered to points of use by three 230-kilovolt transmission lines connecting the hydro plants with a terminal station near Tracy, and a lower voltage transmission system to make de-

¹ As used throughout this report, class I water means firm water of an ascertainable amount with respect to which the Government will undertake a definite obligation to deliver a specific amount annually. Class II water is only intermittently available and will be contracted for and delivered on a basis of if, as, and when available rather than in specifically obligated amounts.

liveries to project pumping plants and to public and privately owned distribution systems. It should be emphasized that the steam plant, or its equivalent, is a feature necessary to the project in order to accomplish the results here indicated because without the supplementary service provided by the steam plant, or its equivalent, the firm, dependable capacity and energy available from the hydro plants, after provision for project pumping, would be of much less magnitude than herein indicated and the secondary power output of the project would be proportionately increased. This would naturally result in a substantial reduction in the economic value of the surplus power available for commercial sale.

(f) *Recreation and fish protection.*— Shasta Lake will have an area of 29,500 acres and a shore line of 365 miles, and Millerton Lake an area of 4,900 acres and a shore line of 43 miles, at spillway level, and these will afford excellent recreational opportunities for swimming, boating, fishing, camping, and picnicking, as well as sightseeing, to an estimated 500,000 visitors annually at Shasta and 270,000 at Millerton. By maintenance of mid-October stream flow throughout the winter, by establishment of a fish hatchery, and by the transfer of salmon to other spawning ground than the streams cut off by Keswick and Shasta Dams, the damage otherwise caused to fish life by the project will be compensated, and conditions developed which are expected to be considerably more favorable than those prevailing before the construction of the project.

THE PROJECT FEATURES—THEIR COST AND FUNCTIONS

14. The total cost of the Central Valley project, according to the latest available estimates (as of January 31, 1946), and itemized by feature, is as follows:

Shasta Dam and Reservoir.....	\$114, 652, 600
Shasta power plant.....	18, 309, 200
Keswick Dam and Reservoir.....	8, 171, 000
Keswick power plant.....	6, 892, 800
Delta Cross Channel.....	11, 839, 000
Contra Costa canal system.....	5, 439, 300
Delta-Mendota canal.....	71, 175, 000
Friant Dam and Reservoir.....	20, 461, 000
Madera canal.....	2, 575, 000
Friant-Kern canal.....	36, 834, 000
Delta steam electric plant.....	26, 144, 000
Transmission system.....	50, 280, 000
Water rights and miscellaneous.....	8, 457, 500
Contra Costa distribution system.....	3, 074, 600
Total.....	384, 314, 000

15. The character and functions of the features or items of cost listed above are as follows:

(a) Shasta Dam, now nearly complete, is a curved, gravity-type concrete structure located on the Sacramento River approximately 10 miles north of Redding with a reservoir of 4,500,000 acre-feet gross capacity, of which 4,000,000 acre-feet represent live storage and the remaining 500,000 acre-feet dead storage serving to maintain hydraulic head. Annual run-off at the dam site for the period 1921-42 averaged about 5.2 million acre-feet annually in a range from about 2.5 to 9.5 million acre-feet. The dam and reservoir serve all the major functions

of the project as a whole—flood control, navigation, salinity repulsion, irrigation, and municipal water storage, and (with the Shasta power plant) hydroelectric generation.

(b) Shasta power plant, located at Shasta Dam, has two of its five generators (nameplate rating 75,000 kilowatts each) installed and operating, and structural work is largely completed. This will be the biggest single source of power of the Central Valley project.

(c) Keswick Dam and Reservoir, with a capacity of 24,000 acre-feet, is located between Shasta Dam and Redding, and the main structure is nearly complete. It serves as a regulating afterbay to Shasta Dam by reducing stream-flow fluctuations otherwise caused by timing releases from Shasta to meet short peaks of power demand, in the interest of navigation, irrigation, and fish protection.

(d) Keswick power plant, located at Keswick Dam, is structurally largely completed, but virtually no equipment is yet installed. When completed, it will have a total nameplate generating capacity of 75,000 kilowatts, and will serve to supplement the hydrogenerating capacity of Shasta power plant.

(e) Delta Cross Channel, for which considerable investigation and survey work have been completed, but no construction work yet undertaken, will carry water from the Sacramento River Channel through the eastern side of the delta area to the San Joaquin River Channel at a point near the southern edge of the delta. The purpose is to make water available at the latter point for delivery to Mendota pool via the Delta-Mendota canal and to the Contra Costa area via the Contra Costa canal, and at the same time contribute to consumptive use and salinity repulsion in the delta area. The total planned gross capacity is 10,000 cubic feet per second whereof it is estimated 4,600 cubic feet per second will be required for the Delta-Mendota canal, 2,850 cubic feet per second for delta consumptive use, 2,200 cubic feet per second for salinity repulsion, and 350 cubic feet per second for the Contra Costa canal. Of the gross capacity of 10,000 cubic feet per second, 1,125 cubic feet per second is reserved for future use when total reservoir capacity on the Sacramento River system has been further increased.

(f) Contra Costa canal system, with a capacity of 350 cubic feet per second at the head of the canal, is now about 70 percent complete. It will consist of 58 miles of canal, with pumping plants and equalizing reservoir, and will ultimately convey about 134,000 acre-feet of water annually from Rock Slough to Contra Costa County, including 11,000 to be obtained from anticipated additional storage on the Sacramento River system.

(g) Delta-Mendota canal, testing and surveying for which is partially complete, and on which construction is now beginning, will be 120 miles long with an intake capacity of 4,600 cubic feet per second gradually reducing to 3,200 cubic feet per second. It will carry water from the terminus of the Delta Cross Channel to Mendota pool to replace water diverted from the San Joaquin River at Millerton Lake into the Madera and Friant-Kern canals. Although designed to carry 4,600 cubic feet per second, the initial diversion will be only 3,500 cubic feet per second, the additional 1,100 cubic feet per second capacity being reserved for future use in areas along the length of the canal when anticipated additional storage is available on the Sacramento River system.

(h) Friant Dam, now complete except for construction of minor works, is a straight gravity-type concrete structure located on the San Joaquin River 20 miles above Fresno, with a reservoir (Millerton Lake) of 520,000 acre-feet gross storage capacity whereof 130,000 acre-feet is dead storage providing head for the outlet to Friant-Kern canal. The estimated annual diversions from the reservoir into the Madera and Friant-Kern canals will total 1,522,500 acre-feet. The reservoir will also serve flood-control purposes.

(i) The Madera canal, now in operation, is 37 miles long with a capacity of 1,000 cubic feet per second at the head of the canal, tapering to 625 cubic feet per second at the terminus in Ash Slough, a tributary of the Chowchilla River. It will ultimately divert an annual total of 266,000 acre-feet of water from Millerton Lake to various points within the Madera irrigation district.

(j) The Friant-Kern canal, on which construction is under way, will be 160 miles long with a capacity of 4,000 cubic feet per second at head of canal. It will ultimately divert an estimated average annual total of 1,256,500 acre-feet of water, after canal losses are deducted, from Millerton Lake to various points in Fresno, Kings, Tulare, and Kern Counties.

(k) The Delta steam plant, for which surveys and design work have been inaugurated but no construction work undertaken, will be a steam-electric plant located near the project-load center in the Delta area, with a generating capacity of 240,000 kilowatts. It will provide the supplementary capacity needed to maintain a high degree of service reliability on the project-power system and to firm up the secondary output of the Shasta and Keswick hydroelectric plants.

(l) The transmission system will consist of three 230-kilovolt lines and one 115-kilovolt line between Shasta and Keswick and the Delta, together with essential substations, and lower voltage transmission lines to insure dependable delivery to project pumping plants and to points of commercial sale of the full anticipated output of the electric power generated by project facilities. The only part of the main system so far to reach the construction stage is one 230-kilovolt line from Shasta to the Delta. Most of the transmission system will jointly serve project pumping and commercial power, but some parts will serve single functions exclusively.

(m) Water rights and miscellaneous consists of items not properly chargeable exclusively to any single feature. More than three-fifths of this total represents the cost of acquiring certain water rights (particularly along the San Joaquin River), easements and settlements necessary for the construction and operation of the project. Included in the remainder are costs incurred for hydrologic, engineering, and other surveys, studies, and investigations, to resolve questions concerning alternative possibilities of design, location, and operation of various physical structures, their effect upon fish and other wildlife, and means to prevent damage thereto. Some of these studies were performed by the Bureau of Reclamation, some by other Federal or State agencies on a reimbursement basis. Some have as great or greater value to anticipated future works as to the project at present authorized.

(n) The Contra Costa distribution system will distribute project water from the Contra Costa canal to some 22,000 acres in Contra Costa County.

ALLOCATION OF COSTS

16. Several methods of allocation of costs of multiple-purpose public enterprises are available, all of which have been considered. Each has merits that vary according to their validity in application to particular cases. An important factor of judgment exists in the choice of methods and in the application or interpretation of the results thereby attained. Where full certainty as to the precise accuracy of methods is not assured, it has long been an established principle of comparable inquiry to apply different methods, analyze the results, and derive a final, working answer on the basis of such comparison. This principle has been applied in allocating the capital costs of the Central Valley project.

17. There are two methods of allocation for which a reasonable claim to validity exists in application to the particular case of the Central Valley project. The first of these is the alternative-justifiable-expenditure method, which has been widely used in the past. The second is the proportionate-use method, modified to provide recognition of the mandatory priorities governing the operation of joint facilities, and to insure that in the case of each function the cost allocated thereto should be the least of the following three:

- (1) The proportionate cost under the present project;
- (2) The cost of attaining the same purpose by an alternative single purpose means;
- (3) The value of the benefits

18. Each of these two methods has been applied, as a first step, and two preliminary allocations derived thereby.¹ The fact that these two methods, applied independently, produce results that offer few striking differences, is accepted as proof of the approximate validity of each. The fact that the relatively small differences that do occur exist within limits of choice for which neither established law, nor science, nor unchallenged judgment offers a sure answer, suggests that the most reasonable allocation is an even balance between the two. The two preliminary allocations, and the final allocation attained by averaging the differences between the two, are shown in table I below:

TABLE I

Functions to which costs may properly be allocated	Alternative justifiable expenditure	Modified proportionate use	Final allocation
Navigation	\$18,083,000	\$18,083,000	\$18,083,000
Flood control	31,444,000	31,444,000	31,444,000
Irrigation (including salinity repulsion)	187,587,200	211,735,000	199,661,100
Contra Costa distribution system	3,074,600	3,074,600	3,074,600
Canal capacity for future water	18,815,000	18,815,000	18,815,000
Municipal water	14,431,000	3,752,000	9,091,500
Commercial power	110,878,300	97,408,000	104,143,600
Total	384,314,000	384,314,000	384,314,000

The adjusted totals thus derived are accepted as the proper allocation of the estimated costs to the various project functions as enumerated.

¹ Appendixes A and B present the detail of these methods and their application

19. It is to be noted that salinity control and fish protection described above in paragraphs 13 (c) and 13 (f), receive no allocation as project functions because no provision in law exists whereby they could be declared nonreimbursable, and means are not available to collect revenues for services in this category. The burden of these costs, therefore, falls upon the revenue producing functions. Salinity control, which has been classified as a supplementary irrigation function, will produce estimated total annual benefits of about \$1,600,000; and according to preliminary estimates prepared in the course of making the modified proportionate use analysis referred to above, this service involves such use of facilities as would justify an allocation of \$29,589,000. Fish protection falls into a different category, since the creation of a large reservoir closing off the upper tributaries of the Sacramento River would inevitably result in considerable damage to migratory fish unless compensatory measures were undertaken. Three measures have been adopted. First, a fish hatchery has been constructed; second, salmon are trapped and transferred to other spawning grounds; third, flow during the propagation season is regulated by Shasta Dam operation improving the spawning grounds between Keswick Dam and Red Bluff over preproject conditions, because of a more dependable minimum level of water, improved water temperature for spawning, and reduced chance of destruction of the nests by flood. The analysis referred to above indicates that the total capital cost of these services amounts to \$15,525,000. In the extent to which the measures adopted redress damages, the costs are properly borne by the revenue producing functions. But in the extent to which the measures result in a net improvement over preproject conditions, as it is believed they will, they constitute a measure of assistance to fish propagation from the revenue-producing functions. Direct costs of \$138,500 for recreation and of \$144,237 for war protective measures are likewise absorbed by the revenue-producing functions.

20. The validity of the allocation as accepted in paragraph 18 is further attested by comparison with the allocation recommended in a report submitted to the Bureau of Reclamation by the Committee on Problems 8 and 9 of the Central Valley project studies. This Committee, which was formed in 1943 and completed its final report in October 1945, was composed of individuals from and representatives of the Bureau of Reclamation and Division of Power of the United States Department of the Interior, the Bureau of Agricultural Economics, and the Soil Conservation Service of the United States Department of Agriculture, the Corps of Engineers of the United States War Department, the Federal Power Commission, the California Water Project Authority, the California Railroad Commission, the California State Department of Natural Resources, and the University of California. This Committee, having duly ascertained the facts as then apparent, applied each one of four separate theories of allocation—the benefit theory, the proportionate-use theory, the vendibility theory, and the alternative-justifiable-expenditure theory. Following a strict and uniform application of each of these, a series of floor and ceiling allocations were derived, the former being the direct costs chargeable to each function, the latter being considered the reasonable maximum. Within the limits defined thereby, optimum allocations were decided on the basis of what the Committee considered where the best interests of

the community, the State, and the Nation. The recommended allocation of the Committee was based on total cost estimates that have since been revised upward nearly \$20,000,000. Estimates of every item of final cost have been either increased or decreased at least slightly, the major increases being in larger estimates of canal costs, and the major decreases occurring in transmission lines and other power installations. The Committee also recommended a nonreimbursable allocation to national security, for which there is no present statutory authority. If, however, the recommended allocation of the Committee is adjusted to these circumstances, the following allocation results:

TABLE II

Function	Allocation of committee based on earlier cost estimates	Adjustment required	Committee allocation if adjusted to new cost estimates
Navigation.....	\$18,084,000	0	\$18,084,000
Flood control.....	31,444,000	0	31,444,000
Irrigation.....	178,101,000	+\$19,356,000	197,457,000
Contra Costa distribution system.....	3,768,000	-693,000	3,075,000
Canal capacity for future water.....	13,827,000	+4,519,000	18,346,000
Municipal and industrial water.....	12,413,000	0	12,413,000
Commercial power.....	102,412,000	+1,083,000	103,495,000
National security.....	4,462,000	-4,462,000	0
Total.....	364,511,000	+10,803,000	384,314,000

1 Distributed 1/5 to commercial power and 3/5 to irrigation

The judgment of the Committee, as embodied in its recommendations to the Bureau of Reclamation, and as adjusted to new factors of cost, is thus seen to correspond closely to the allocation resulting from the Bureau's own procedures.

PROBABILITY OF REPAYMENT

21. Irrigation water from the Central Valley project will serve a wide variety of agricultural purposes. Some will go directly to lands not previously under irrigation, some will serve as supplemental surface water to lands now irrigated but with inadequate or precarious supplies; some will be used mainly to replenish lowering ground water tables in areas largely or exclusively dependent on ground water for irrigation. The products from the land receiving water will cover the entire range of a remarkable diverse agriculture in the different sections of the valley, from citrus, deciduous fruits, and truck, to hay, dairy, and livestock. Benefits from the use of irrigation will therefore vary greatly from area to area, and from one use to another; the cost of delivering water to different areas will likewise vary greatly.
22. Several estimates of farm benefits of irrigation water within the prospective service areas are available. Average net farm benefits per acre-foot of water, distribution costs taken into account, have been estimated to range from \$3 to \$3.10 in the Sacramento River service area, from \$4.05 to \$8.10 in the service area of the Delta-Mendota canal, and from \$4.35 to \$7.80 in the service areas of the Madera and Friant-Kern canals. These estimates assume agricultural price levels at a conservative level for long-time projection.

The range in each case is due in large measure to different assumptions as to the types of farming—the lower figure promised on somewhat less profitable crop patterns than those that have generally prevailed in the area in the recent past, the larger premised on the continuance of present crop patterns.

23. A further indication of the value of irrigation benefits has been derived by analysis of a series of estimates of the net value at the farm of water applied to presently dry lands within the Central Valley service area. This estimate is judged more applicable because it avoids counting in the irrigation increment as a capital cost which the farmer must meet before he actually pays for the water. The series of per acre-foot farm benefits ranges from \$3 to \$15, depending on the soil and the type of farming. An average, weighted to the most probable distribution in respect to soil and farm types, amounts to \$6.50. Assuming total distribution costs of \$2.35, a canal-side or river-bank price at an average of \$4.15 per acre-foot would seem reasonable for class I water. In the case of class II water, the uncertainties concerning its delivery, which will involve restrictions in use, possible risk, and additional pumping costs in many cases, justify a reduction in estimated farm benefit of \$2 per acre-foot, leaving the reasonable average canal-side price at \$2.15.

24. Even conservative estimates of benefits or value of irrigation water may constitute overestimates of the amounts that can be or will be paid, however, unless allowance is made for special factors which frequently adversely affect the collection of revenues for the provision of irrigation water supply. A principal factor in this connection is established capitalization into land values of the irrigation increment without the costs thereof having been retired, with the result that the actual operator is frequently burdened with excessive capital costs. There is likewise always a possibility of rising costs or unusual losses. Furthermore, it is reasonable to assume that the direct benefit to the farmer for the use of water should be substantially higher than the total price he must pay for it.

25. The allowance to be made for such contingencies is necessarily a matter of judgment. Under the circumstances, an allowance is made of approximately one-third of the estimated benefit, which would establish the weighted average price of class I water at \$2.70, and of class II water at \$1.45. Under the proposed schedule of rates based on estimates of benefits and of the amounts irrigators may be reasonably expected to pay, under circumstances of full development and operation of the authorized project, irrigators would annually pay a total of \$4,329,965 for canal-side water, whereof \$2,702,984 will be needed for operation, maintenance, and replacement charges, and \$1,626,981 will apply to repay the capital costs allocated to irrigation.

26. It is not possible to make a precise determination of the amount of project water that will be supplied to municipal and industrial uses. Careful survey of the present and potential demand indicates, however, that an initial demand for about 25,000 acre-feet in 1950 will probably rise to about 68,000 acre-feet annually when full development of the authorized features is attained in 1965. A rate of \$10 per acre-foot has been assumed in this report for water for these purposes. This rate may be judged by comparison with prevailing rates in areas adjacent to those where sales are contemplated. The principal alter-

native source sells water on a rate schedule varying from \$52.27 to \$95.83 per acre-foot within its district, depending on the amount used and exclusive of meter service charges. This water is treated, but the cost of treatment will not exceed \$10 per acre-foot. It is estimated that, under full operation of the authorized project, gross annual revenues from the sale of municipal and industrial water will amount to \$680,000, whereof \$119,070 will be necessary to support operation, maintenance, and replacement costs, and \$560,930 will be available for application to capital costs. This will be sufficient to repay the allocated costs during the project repayment period, plus 3 percent interest on the unpaid balance, and to meet an appropriate share of other fixed costs of the project water supply.

27. The Contra Costa distribution system, the estimated cost of which is \$3,074,600, will distribute project water from the Contra Costa canal to some 22,000 acres in Contra Costa County. As indicated above (par. 12), this will be the subject of a separate repayment contract executed under authority of section 9 (d) of the Reclamation Project Act. It is estimated on the basis of present construction costs that repayment in 40 years will involve a total cost of water at the farm headgate of from \$5.25 to \$6 per acre-foot, including all operation and maintenance charges and payment likewise of the projected rate for Central Valley project water. This total cost per acre-foot is to be compared with estimated benefits of approximately \$20 per acre, the area being suburban, cultivation intensive, and order of use high. Duty of water will not ordinarily exceed 2 feet.

28. In the absence of authorization to construct the reservoirs that will be required to supply the additional water contemplated in designing the Delta Cross Channel, Delta-Mendota canal, and Contra Costa canal, it is not possible to estimate when such water will be available. When such water is made available it probably can be distributed at rates sufficient to provide, in addition to operating, maintenance, and replacement expenses, repayment of the \$18,815,900 allocated to the canal capacity provided for it. Early requirements for the additional water are evident and authorization to construct the necessary reservoirs is expected in the near future. Should the proposed reservoirs not be constructed or the revenues from supplying the additional water not be sufficient to repay the allocated cost, such repayment can be made within a few years from the net revenues available from the other project functions subsequent to complete repayment of the costs allocated to them.

29. An average rate for sale of commercial power for the pay-out period has been fixed at the level necessary to repay the allocation to commercial power, plus 3 percent interest on the outstanding balance, within 50 years after the completion of construction of the authorized power features. The rate so derived is 4.6 mills.¹ It is assumed that present contractual arrangements will prevail through 1949. The pay-out period average rate of 4.6 mills per kilowatt-hour is assumed to apply thereafter, although all power facilities are not assumed as fully constructed until 1955. For that portion of the power used for project pumping, a charge is made of 2.5 mills as the equivalent of a proportionate share of the operation, maintenance, and replacement costs borne by the joint project power facilities.

¹The average rate employed in the pay-out table to test repayment probability is actually 0.03 mill less than this, or 4.57 mills.

30. An interim power rate schedule for the Central Valley project, approved by the Secretary of the Interior March 7, 1945, would realize an estimated 5.137 mills per kilowatt-hour under prevailing market conditions and load factors. Both the interim schedule and the projected average rate are substantially below existing rates within the project service area, and because of this and because of the steadily increasing demand for power it is reasonable to assume that the 4.6-mill rate can be maintained as an average for the 50-year period within which allocated costs will be repaid with 3 percent interest. The replacement costs entered as an annual expense are estimated on a basis calculated to maintain the power facilities in good operating condition throughout the pay-out period.

31. Of major importance in regard to the determination of the probability of repayment of capital costs is establishment of the conditions to be met. From a consideration of the many factors involved, it is concluded that for the Central Valley project the following criteria will be applied:

(a) All authorized project water supply features will be completed by 1950, and full utilization thereof will be attained by 1965. In respect to power, all authorized generating capacity will be installed by 1951 and all of the transmission plant will be in place by 1955, completing the project's commercial power facilities, with full utilization of all commercial power facilities attained by 1965.

(b) All computations of operating, maintenance, and replacement expenses and of net revenues available for probable repayment of construction costs will include a reasonable provision for contingencies.

(c) Water for irrigation will be delivered under the provisions of section 9 (e) of the Reclamation Project Act of 1939. The rates will be sufficient to cover all customary operating expenses and a fixed charge, the total determined on the basis of farm benefits of the water and of the estimated ability of water users to pay over a protracted period.

(d) The electric energy not required for project uses will be sold, under the provisions of section 9 (c) of the Reclamation Project Act of 1939, at rates sufficient to repay, in addition to all customary operation, maintenance, and replacement expenses, the estimated cost allocated to commercial power within 50 years after the assumed completion of construction in 1955, and within a 50-year period from the time that each feature involved is placed in service, plus interest at 3 percent per annum on the unpaid annual balances thereof.

(e) The construction cost of the Contra Costa and other distribution systems will be repaid by the users thereof, under the provisions of section 9 (d) of the Reclamation Project Act of 1939.

(f) The estimated cost allocated to the additional capacity that is being provided in the Delta Cross Channel, Contra Costa canal, and Delta-Mendota canal for handling water to be made available by construction of future reservoirs would be repaid from revenues from the users of the additional water if possible. If, however, the proposed reservoirs are not built or the resulting revenues are not sufficient to cover the costs, the necessary additional repayment would be made from revenues from the project services following complete repayment of the costs previously assigned to such services.

(g) The water for municipal supply purposes, including domestic and industrial uses, will be furnished under the provisions of section 9 (c) of the Reclamation Project Act of 1939, at rates at least sufficient to repay, in addition to all customary operating expenses, the estimated cost allocated to municipal water within the repayment period for the project, plus interest at 3 percent per annum on the unpaid annual balances.

(h) All net revenues, including both capital and interest components, received in accordance with the repayment procedures outlined above will be credited to the reclamation fund, pursuant to the act of May 9, 1938 (52 Stat. 291, 318), until the accumulation thereof equals the actual construction cost of the project. As a result, while as pointed out in subsections (d) and (g) of this paragraph, the rates for the sale of electric energy not required for project uses and the rates for the sale of water for municipal supply purposes, including domestic and industrial uses, will include an interest component, the revenues derived from the interest component so included in the rates will be applied against project costs allocated to irrigation but beyond the ability of the water users to return. To the extent that such revenues do not return to the United States all costs allocated to irrigation but beyond the ability of the water users to repay, the excess of such costs will be returned to the United States by net revenues derived from the sale of electric energy not required for project uses and from the sale of water for municipal supply purposes after revenues from such sales (exclusive of revenues derived from the interest component) have retired the capital costs allocated to providing such electric energy and water. The results of this course of procedure are indicated in paragraphs 32 and 33 infra.

(i) All operating, maintenance, and replacement expenses including those for nonreimbursable functions, will be met by the revenue-producing services provided by the project.

32. Tables IV and V present, in summary form, the results of a financial study of the Central Valley project based on the conditions as described above. The financial results presented in table IV reflect power rates which can probably be realized as an average throughout the repayment period. The weighted average rates for irrigation water of \$2.70 and \$1.45 for class I and class II water, respectively, as embodied in table V, constitute the full amount of the maximum rates which are contemplated. Present conditions justify charging the full maximum rates. If this basis were projected indefinitely, the gross revenue realized from providing irrigation water service would amount, by the year 2004, to \$220,638,144, which, after deducting the total operation, maintenance, and replacement expense during this period (\$148,132,332), would leave net revenue of \$72,505,812¹ as the amount repaid by the water users, and this sum, together with the financial assistance from other project functions within the same period of time (to the year 2004), would be sufficient to repay completely the capital costs allocated to irrigation. Under these circumstances, the net revenue applicable to repayment of the reimbursable capital costs of the project would amount, by the year 2004 for the project water services, and by the year 2005 for commercial power, to the sums shown in the right-hand column of table III below:

¹ With a surplus of irrigation revenues in the year 2001 of \$957,161.

TABLE III

	Allocation	Applicable net revenues
Irrigation.....	\$199,661,100	\$72,505,812
Contra Costa distribution system.....	3,074,600	3,074,600
Municipal water.....	9,091,800	27,424,212
Commercial power.....	104,143,600	244,479,257
Total.....	315,971,100	317,483,881
Surplus.....		1,512,781

33. Foreseeing that the farmers' ability to pay for irrigation water may be reduced below the levels which now appear wholly reasonable and probable, provision for the reduction of rates below the maxima will be included in the contracts under which irrigation water will be provided. In consideration of the terms of the water-service contracts, which will provide for the annual determination of water rates based on current operation, maintenance, and replacement costs, and on the water users' ability to pay in the particular year, an allowance of approximately \$23,000,000 is made for such contingencies. In this event, the amount available for the repayment of construction costs will probably not be sufficient to repay the previously stated sum of \$72,505,812 by the year 2004, and continuing payments of similar water rates until the year 2009 will be necessary in order to accomplish full project repayment. Under these conditions, net irrigation revenues through the year 2008 will have amounted to \$54,272,989, and this sum, together with the financial assistance received from other project functions through the same period, \$146,770,539, will leave \$3,386,672 of the irrigation allocation of \$199,661,100 remaining to be paid in the year 2009. This balance of \$3,386,672 can be met by application of the annual net irrigation revenues (\$1,197,886) plus \$2,188,786 from the net power revenues, for the year 2009, bringing the final repayment from irrigation revenues to a total of \$55,470,875. The total amounts repaid, through the year 2009, for all functions, will be by commercial power \$227,757,693, by irrigation \$55,470,875, by municipal and industrial water \$29,667,932, and by the Contra Costa distribution system \$3,074,600, leaving a surplus in that year of \$2,068,694, from net revenues from commercial power and municipal and industrial water.

34. The allocation of \$18,815,900 to future canal capacity is only about three times the amount of net revenue (\$5,455,366) estimated on the basis of the less favorable assumptions regarding irrigation-water revenues. In the event additional storage capacity is not made available, this allocation can be repaid by the year 2012 by the application thereto of the total net revenue from the project after other costs have been returned.

SUMMARY OF FINDINGS

35. The basic plan of the project and the design and construction of the individual features have been the subject of thorough investigation by engineers who are competent and experienced in these matters. It is concluded and found that the project which is discussed in this report has engineering feasibility and will operate to provide the services herein indicated.

TABLE IV.—Power system, financial operation study for examination of average rate and investment repayment from power revenues

Year of study	Fiscal year	Sales of electric energy (kilowatt-hours)				Operating revenues (sales of electric energy)				Revenue deductions			Net operating revenues (10—(13))	Income deductions (re-payment of invest-ment)		Investment repayment from power revenues, plant in service at end of year		Earned surplus (cumula-tive)	Year of study
		Irrigation pumping	Firm com-mercial	Nonfirm	Total (3)+(4)+(5)	Irrigation pumping (2.5 mills)	Firm (4.57 mills) after 1949	Nonfirm (1.5 mills)	Total (7)+(8)+(9)	Operation, mainte-nance and overhead	Provision for re-placement	Total (11)+(12)		Interest	Principal	Interest bearing			
																Electric plant	Balance to be repaid		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1	1945	0	216,344,000	513,161,000	728,605,000	0	\$1,151,708	\$769,741	\$1,921,449	\$703,000		\$703,000	\$1,218,449	\$782,383	\$436,060	\$26,079,442	\$26,079,442	0	1
2	1946	3,130,000	800,105,000	652,340,000	1,455,575,000	\$7,825	2,773,735	978,510	3,760,120	524,125	\$199,390	723,515	3,036,605	790,205	2,246,400	26,776,241	26,340,175	0	2
3	1947	3,833,600	800,300,000	695,860,400	1,500,000,000	9,681	2,701,012	1,013,800	3,715,396	540,860	207,810	748,670	3,005,726	861,429	2,144,297	31,306,756	28,714,290	0	3
4	1948	29,378,800	1,000,000,000	620,621,200	1,650,000,000	73,447	3,375,000	930,932	4,379,379	1,071,009	568,790	2,540,699	1,838,080	983,467	855,213	37,008,090	32,782,227	0	4
5	1949	33,944,000	1,200,000,000	566,050,000	1,800,000,000	84,860	4,050,000	849,034	4,933,944	3,287,778	948,319	4,236,127	1,834,311	(1,080,494)	747,817	60,825,678	01,143,702	0	5
6	1950	157,452,400	1,400,000,000	392,547,600	1,950,000,000	393,631	6,398,000	588,821	7,380,452	3,019,057	1,130,439	5,049,406	2,330,950	1,990,390	334,656	83,320,166	78,390,028	0	6
7	1951	187,691,600	1,755,000,000	278,308,400	2,221,000,000	469,229	8,020,350	417,463	8,907,042	4,050,728	1,168,419	5,219,147	3,037,895	2,351,701	1,336,194	97,507,000	90,251,849	0	7
8	1952	217,468,400	1,755,000,000	248,531,600	2,221,000,000	543,671	8,020,350	372,797	8,936,818	4,182,400	1,206,400	5,388,800	3,518,018	2,558,599	989,419	99,507,000	91,399,276	0	8
9	1953	229,578,400	1,755,000,000	230,421,600	2,221,000,000	573,946	8,020,350	354,632	8,918,928	4,182,400	1,206,400	5,388,800	3,560,128	2,707,555	852,573	101,507,000	92,508,995	0	9
10	1954	241,709,200	1,755,000,000	224,290,800	2,221,000,000	604,273	8,020,350	330,436	8,961,059	4,182,400	1,206,400	5,388,800	3,572,259	2,741,978	830,281	104,143,600	94,397,655	0	10
11	1955	253,859,600	1,755,000,000	212,140,400	2,221,000,000	634,649	8,020,350	318,211	8,973,210	4,182,400	1,206,400	5,388,800	3,584,410	2,777,070	807,340	104,143,600	93,633,085	0	11
12	1956	265,956,000	1,755,000,000	200,050,000	2,221,000,000	664,875	8,020,350	300,075	8,985,300	4,182,400	1,206,400	5,388,800	3,596,500	2,831,930	704,570	104,143,600	92,832,704	0	12
13	1957	278,823,600	1,755,000,000	187,176,400	2,221,000,000	697,059	8,020,350	280,765	8,998,174	4,182,400	1,206,400	5,388,800	3,609,374	2,808,993	800,351	104,143,600	91,996,904	0	13
14	1958	290,231,600	1,755,000,000	175,768,400	2,221,000,000	725,579	8,020,350	263,652	9,009,581	4,182,400	1,206,400	5,388,800	3,620,781	2,784,981	835,800	104,143,600	91,124,347	0	14
15	1959	301,913,600	1,755,000,000	164,080,400	2,221,000,000	754,784	8,020,350	246,130	9,021,264	4,182,400	1,206,400	5,388,800	3,643,812	2,733,730	910,082	104,143,600	90,214,265	0	15
16	1960	313,202,000	1,755,000,000	152,738,000	2,221,000,000	783,155	8,020,350	229,107	9,032,612	4,182,400	1,206,400	5,388,800	3,665,205	2,706,428	948,777	104,143,600	89,265,488	0	16
17	1961	324,655,200	1,755,000,000	141,344,800	2,221,000,000	811,638	8,020,350	212,017	9,044,005	4,182,400	1,206,400	5,388,800	3,686,614	2,677,965	988,549	104,143,600	88,276,939	0	17
18	1962	336,964,400	1,755,000,000	130,035,600	2,221,000,000	839,911	8,020,350	195,053	9,055,314	4,182,400	1,206,400	5,388,800	3,677,908	2,648,308	1,029,600	104,143,600	87,247,339	0	18
19	1963	347,358,000	1,755,000,000	118,642,000	2,221,000,000	868,395	8,020,350	177,903	9,066,708	4,182,400	1,206,400	5,388,800	3,677,206	2,617,420	1,069,786	104,143,600	86,177,553	0	19
20	1964	359,656,400	1,755,000,000	109,343,600	2,221,000,000	891,641	8,020,350	161,015	9,076,006	4,182,400	1,206,400	5,388,800	3,677,206	2,585,327	1,111,223	104,143,600	85,066,330	0	20
21	1965	366,000,000	1,755,000,000	100,000,000	2,221,000,000	915,000	8,020,350	150,000	9,085,350	4,182,400	1,206,400	5,388,800	3,690,550	2,551,990	1,144,560	104,143,600	83,921,770	0	21
22	1966	366,000,000	1,755,000,000	100,000,000	2,221,000,000	915,000	8,020,350	150,000	9,085,350	4,182,400	1,206,400	5,388,800	3,690,550	2,517,053	1,178,897	104,143,600	82,742,873	0	22
23	1967	366,000,000	1,755,000,000	100,000,000	2,221,000,000	915,000	8,020,350	150,000	9,085,350	4,182,400	1,206,400	5,388,800	3,690,550	2,482,286	1,214,204	104,143,600	81,628,609	0	23
24	1968	366,000,000	1,755,000,000	100,000,000	2,221,000,000	915,000	8,020,350	150,000	9,085,350	4,182,400	1,206,400	5,388,800	3,690,550	2,445,858	1,250,692	104,143,600	80,277,917	0	24
25	1969	366,000,000	1,755,000,000	100,000,000	2,221,000,000	915,000	8,020,350	150,000	9,085,350	4,182,400	1,206,400	5,388,800	3,690,550	2,408,338	1,288,212	104,143,600	78,989,705	0	25
26	1970	366,000,000	1,755,000,000	100,000,000	2,221,000,000	915,000	8,020,350	150,000	9,085,350	4,182,400	1,206,400	5,388,800	3,690,550	2,369,091	1,326,859	104,143,600	77,602,846	0	26
27	1971	366,000,000	1,755,000,000	100,000,000	2,221,000,000	915,000	8,020,350	150,000	9,085,350	4,182,400	1,206,400	5,388,800	3,690,550	2,329,885	1,366,065	104,143,600	76,296,181	0	27
28	1972	366,000,000	1,755,000,000	100,000,000	2,221,000,000	915,000	8,020,350	150,000	9,085,350	4,182,400	1,206,400	5,388,800	3,690,550	2,288,885	1,407,605	104,143,600	74,888,516	0	28
29	1973	366,000,000	1,755,000,000	100,000,000	2,221,000,000	915,000	8,020,350	150,000	9,085,350	4,182,400	1,206,400	5,388,800	3,690,550	2,246,655	1,449,895	104,143,600	73,438,621	0	29
30	1974	366,000,000	1,755,000,000	100,000,000	2,221,000,000	915,000	8,020,350	150,000	9,085,350	4,182,400	1,206,400	5,388,800	3,690,550	2,203,159	1,493,391	104,143,600	72,040,000	0	30
31	1975	366,000,000	1,755,000,000	100,000,000	2,221,000,000	915,000	8,020,350	150,000	9,085,350	4,182,400	1,206,400	5,388,800	3,690,550	2,158,357	1,538,193	104,143,600	70,407,037	0	31
32	1976	366,000,000	1,755,000,000	100,000,000	2,221,000,000	915,000	8,020,350	150,000	9,085,350	4,182,400	1,206,400	5,388,800	3,690,550	2,112,211	1,581,339	104,143,600	6		

TABLE V.—Study of repayment of Central Valley project costs assuming maintenance of 100 percent maximum rates for irrigation water,¹ project water supply.

Year of study	Fiscal year	Municipal and industrial water											Irrigation water											Fiscal year
		Amount of water (acre-feet)	Operating revenue at rate of \$10 per acre-foot	Operating charges				Net operating revenue (column 4 less column 8)	Repayment of investment		Net outstanding municipal and industrial water investment	Net municipal and industrial water revenue 2	Amount of water (acre-feet)	Operating revenue at maximum rates 1 (weighted averages class I, \$2.70; class II, \$1.45 per acre-foot)	Operating charges				Net operating revenue (column 15 less column 19)	Total revenues applicable to irrigation investment 3	Net outstanding irrigation investment	Earned surplus from project water supply	Contra Costa distribution system (outstanding investment)	
				Operation, maintenance and overhead	Project pumping, at 2.5 mills per kilo-watt-hour	Replacements	Total (columns 5, 6, and 7)		Interest (3 percent of previous balance in column 12)	Principal					Operation, maintenance and overhead	Project pumping (2.5 mills per kilo-watt-hour)	Replacements	Total operating charges (columns 16, 17, and 18)						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
	1950		\$269,444	\$209,700	\$51,903	\$4,841	\$269,444				\$9,091,800			\$1,011,018	\$3,746,037	\$514,444	\$678,018	\$4,939,399	-\$3,028,381	\$4,219,714	\$199,661,100		\$3,074,600	1950
1	1951	27,400	274,000	77,011	16,326	1,779	95,146	\$178,854	\$272,754	-\$93,000	9,185,700		859,950	2,070,227	1,548,101	452,903	280,133	2,281,137	-210,010	2,413,545	193,027,841		2,997,735	1951
2	1952	30,300	303,000	77,011	18,081	1,779	96,901	206,699	275,571	-69,472	9,255,172	0	1,050,550	2,441,731	1,548,101	525,590	280,133	2,353,824	87,907	2,922,077	190,105,704		2,920,870	1952
3	1953	33,200	332,000	77,011	19,788	1,779	98,608	233,392	277,655	-44,263	9,299,435	0	1,123,400	2,593,520	1,548,101	551,153	280,133	2,382,392	211,137	3,196,347	186,909,417		2,844,005	1953
4	1954	36,100	361,000	77,011	21,496	1,779	100,316	260,684	278,983	-18,299	9,317,734	0	1,190,400	2,745,501	1,548,101	582,777	280,133	2,411,011	334,490	3,355,451	183,553,066		2,767,140	1954
5	1955	39,000	390,000	77,041	23,203	1,779	102,023	287,977	279,532	8,445	9,309,289	0	1,269,450	2,897,725	1,548,101	611,446	280,133	2,439,680	455,045	3,614,647	180,039,319		2,690,275	1955
6	1956	41,900	419,000	77,011	24,911	1,779	103,731	315,269	279,279	35,990	9,273,299	0	1,342,250	3,049,273	1,548,101	639,961	280,133	2,468,198	581,075	3,692,284	176,347,035		2,613,410	1956
7	1957	44,800	448,000	77,041	26,619	1,779	105,439	342,561	278,199	64,362	9,208,937	0	1,415,300	3,201,495	1,548,101	670,440	280,133	2,498,674	702,821	3,790,013	172,557,022		2,536,545	1957
8	1958	47,700	477,000	77,041	28,326	1,779	107,146	369,854	276,268	93,586	9,115,351	0	1,488,300	3,353,468	1,548,101	697,253	280,133	2,525,487	827,981	3,889,230	168,667,792		2,459,680	1958
9	1959	50,600	506,000	77,041	30,033	1,779	108,853	397,147	273,461	123,686	8,991,665	0	1,559,450	3,501,870	1,548,101	724,751	280,133	2,552,985	948,885	3,982,253	161,685,539		2,382,815	1959
10	1960	53,500	535,000	77,041	31,737	1,779	110,557	424,443	269,750	154,693	8,836,972	0	1,629,350	3,647,648	1,548,101	751,418	280,133	2,579,652	1,067,996	4,071,476	160,614,063		2,305,950	1960
11	1961	56,400	564,000	77,041	33,441	1,779	112,261	451,739	265,109	180,630	8,650,342	0	1,699,400	3,793,878	1,548,101	778,197	280,133	2,606,431	1,187,447	4,158,984	156,455,079		2,229,085	1961
12	1962	59,300	593,000	77,041	35,146	1,779	113,966	479,034	259,510	219,524	8,430,818	0	1,769,100	3,939,232	1,548,101	804,765	280,133	2,632,999	1,306,233	4,243,708	152,211,371		2,152,220	1962
13	1963	62,200	622,000	77,041	36,851	1,779	115,671	506,329	252,925	253,404	8,177,414	0	1,839,150	4,085,461	1,548,101	831,544	280,133	2,659,778	1,425,633	4,326,916	147,884,455		2,075,355	1963
14	1964	65,100	651,000	77,041	38,556	1,779	117,370	533,630	245,322	288,308	7,880,106	0	1,898,850	4,207,483	1,548,101	853,091	280,133	2,681,325	1,526,163	4,388,005	143,495,550		1,998,490	1964
15	1965	68,000	680,000	77,041	40,260	1,779	119,070	560,930	239,673	324,257	7,564,849	0	1,958,700	4,329,065	1,548,101	874,750	280,133	2,702,984	1,626,981	4,448,981	139,040,569		1,921,625	1965
16	1966	68,000	680,000	77,041	40,260	1,779	119,070	560,930	226,945	333,985	7,230,864	0	1,958,700	4,329,065	1,548,101	874,750	280,133	2,702,984	1,626,981	4,405,010	131,640,653		1,844,760	1966
17	1967	68,000	680,000	77,041	40,260	1,779	119,070	560,930	216,926	344,004	6,886,860	0	1,958,700	4,329,065	1,548,101	874,750	280,133	2,702,984	1,626,981	4,361,560	130,270,093		1,767,895	1967
18	1968	68,000	680,000	77,041	40,260	1,779	119,070	560,930	206,606	354,324	6,532,536	0	1,958,700	4,329,065	1,548,101	874,750	280,133	2,702,984	1,626,981	4,315,873	125,963,220		1,691,030	1968
19	1969	68,000	680,000	77,041	40,260	1,779	119,070	560,930	195,976	361,954	6,167,582	0	1,958,700	4,329,065	1,548,101	874,750	280,133	2,702,984	1,626,981	4,268,815	121,694,405		1,614,165	1969
20	1970	68,000	680,000	77,041	40,260	1,779	119,070	560,930	185,027	375,903	5,791,679	0	1,958,700	4,329,065	1,548,101	874,750	280,133	2,702,984	1,626,981	4,220,346	117,474,059		1,537,300	1970
21	1971	68,000	680,000	77,041	40,260	1,779	119,070	560,930	173,750	387,180	5,404,499	0	1,958,700	4,329,065	1,548,101	874,750	280,133	2,702,984	1,626,981	4,170,422	113,303,637		1,460,435	1971
22	1972	68,000	680,000	77,041	40,260	1,779	119,070	560,930	162,135	398,795	5,005,704	0	1,958,700	4,329,065	1,548,101	874,750	280,133	2,702,984	1,626,981	4,119,001	109,184,630		1,383,570	1972
23	1973	68,000	680,000	77,041	40,260	1,779	119,070	560,930	150,171	410,759	4,691,945	0	1,958,700	4,329,065	1,548,101	874,750	280,133	2,702,984	1,626,981	4,066,037	105,118,699		1,306,705	1973
24	1974	68,000	680,000	77,041	40,260	1,779	119,070	560,930	137,843	423,082	4,171,863	0	1,958,700	4,329,065	1,548,101	874,750	280,133	2,702,984	1,626,981	4,011,484	101,107,115		1,229,840	1974
25	1975	68,000	680,000	77,041	40,260	1,779	119,070	560,930	125,156	435,774	3,736,089	0	1,958,700	4,329,065	1,548,101	874,750	280,133	2,702,984	1,626,981	3,955,296	97,151,819		1,152,975	1975
26	1976	68,000	680,000	77,041	40,260	1,779	119,070	560,930	112,083	448,847	3,287,242	0	1,958,700	4,329,065	1,548,101	874,750	280,133	2,702,984	1,626,981	3,897,421	93,254,398		1,076,110	1976
27	1977	68,000	680,000																					

36. It is found that the total estimated cost of the proposed construction as discussed in this report is \$384,314,000 as itemized in paragraph 14 above.

37. It is found that the proper allocation of the estimated capital costs of the project discussed in this report, and the amount of such costs which can probably be repaid by net revenues, by the year 2009, is as set forth below:

	Cost allocation	Probable repayment
Nonreimbursable:		
Navigation.....	\$18,083,000
Flood control.....	31,444,000
Total nonreimbursable.....	49,527,000
Reimbursable:		
Irrigation, including salinity repulsion.....	193,661,100	55,470,875
Contra Costa distribution system.....	3,074,600	3,074,600
Municipal and industrial water.....	9,091,800	29,667,932
Commercial power.....	104,143,600	227,757,693
Total reimbursable.....	315,971,100	315,971,100
Canal capacity for future use.....	18,815,900	¹ 18,815,900
Total reimbursable cost of project.....	334,787,000	334,787,000
Total cost of project.....	384,314,000

¹ To be repaid by water users using this capacity when additional storage is provided; otherwise by surplus revenues from other features by the year 2012.

APPENDIX A

ALLOCATION OF COST BY THE ALTERNATIVE JUSTIFIABLE EXPENDITURE METHOD

This section is directed to determining the part of the estimated cost of the Central Valley project which can properly be allocated to each of the project functions on the basis of an analysis embodying the alternative justifiable expenditure theory. This method has been widely used in the past and is recognized to have approximate validity in application to the Central Valley project. This method comprises three basic steps (1) to assign the costs of the single-purpose features directly to their respective functions, (2) to divide the costs of the canals and power system which serve more than one function in proportion to the relative uses of the works, and (3) to allocate the costs of the multipurpose reservoirs in proportion to the justifiable expenditures for alternative single-purpose structures.

SINGLE-PURPOSE COSTS

The single-purpose features of the project are those listed below:

Single-purpose features:	
Delta-Mendota canal.....	\$71, 175, 000
Madera canal.....	2, 575, 000
Friant-Kern canal.....	36, 834, 000
Contra Costa distribution system.....	3, 074, 600
Commercial Power transmission system.....	14, 883, 000
Flood-control features, Shasta Dam.....	1, 223, 860
River outlet valves and controls, Shasta Dam.....	3, 228, 404
Flood-control features, Friant Dam.....	807, 000
Irrigation outlets, Friant Dam.....	553, 000
Water rights and miscellaneous.....	5, 575, 100
Total.....	139, 928, 964

The Delta-Mendota canal will be used for the single purpose of irrigation in the San Joaquin Valley, but an allocation of its costs is needed as between the capacity provided for the water to be made available by Shasta Reservoir and the capacity provided for a future supply from other reservoirs.

	Percent	Amount
Delta-Mendota canal:		
Irrigation.....	76.09	\$54, 093, 000
Capacity for future water.....	23.91	17, 082, 000
Total.....	100.00	71, 175, 000

The item labeled "Water rights and miscellaneous" includes \$33,000 which was expended in power-market studies and is directly chargeable to power. The remaining \$5,542,100 consists of \$5,367,100 for water rights purchased, \$100,000 for Sacramento River service-area studies, and \$75,000 for Delta-Mendota service-area studies which is all directly chargeable to irrigation.

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CENTRAL VALLEY FEDERAL RECLAMATION PROJECT

LIMITED JOINT COSTS

The features listed below serve more than one function, but have limited use. It is proposed that their costs be allocated on a proportionate-use basis.

Limited joint-cost features:	
Delta Cross Channel.....	\$11, 839, 000
Contra Costa canal.....	5, 439, 300
Power plants (including Keswick Dam).....	59, 316, 500
Joint transmission system.....	34, 542, 000
Project pumping transmission system.....	864, 000
Delta area studies.....	100, 000
Total.....	112, 100, 800

The Delta Cross Channel will convey water for irrigation and for municipal and industrial purposes. Included as a supplemental irrigation function is the distribution of water across the Delta in a manner to repulse the encroachment of ocean salinity. The cost assigned to irrigation and salinity repulsion is divided on a proportionate basis between the capacity provided for the water to be made available by Shasta Reservoir and the capacity for a future supply from other reservoirs.

	Percent	Amount
Delta Cross Channel:		
Irrigation and salinity repulsion:		
Project water supply.....	87.06	\$10, 307, 034
Capacity for future water.....	11.27	1, 334, 255
Municipal water.....	1.67	197, 711
Total.....	100.00	11, 839, 000

The Contra Costa canal will function for the purposes of irrigation and municipal water supply. The proportionate capacity requirements and corresponding allocations of cost are as follows:

	Percent	Amount
Contra Costa canal:		
Irrigation.....	45.14	\$2, 455, 300
Municipal water.....	47.72	2, 595, 634
Capacity for future water.....	7.14	388, 366
Total.....	100.00	5, 439, 300

The power plants and main transmission system are designed to supply power for pumping water in the project canals and for commercial power sales. Selecting the peak demands in kilowatts required at a delta load center for each purpose as a reasonable basis for allocation the following factors are indicated:

	Percent	Amount
Power system common to project pumping and commercial service:		
Irrigation, project water.....	21.54	\$20, 217, 121
Municipal water.....	.55	516, 222
Commercial power.....	77.91	73, 125, 157
Total.....	100.00	93, 858, 500

The project transmission system, which is to extend from the end of the main lines to the pumping plants, for the purpose of supplying power to the pumping plants for their functions of handling water for irrigation and municipal water supply. Based on the estimated demands, the following allocation is indicated:

	Percent	Amount
Project pumping transmission system:		
Irrigation, project water	7.48	\$42,227
Municipal water	2.52	21,773
Total	100.00	\$64,000

The item labeled "Delta area studies" is allocated on the same proportionate basis as the delta cross-channel costs:

	Percent	Amount
Delta area studies:		
Irrigation and salinity repulsion:		
Project water supply	37.06	\$87,060
Capacity for future water	11.27	11,270
Municipal water	1.67	1,670
Total	100.00	100,000

GENERAL JOINT COSTS

Attention is next given to the problem of allocating the costs of Shasta Reservoir and Millerton Lake and certain miscellaneous costs.

(a) *Navigation.*—For navigation, a comprehensive study was made by a committee on the Central Valley project studies, in which personnel from the Corps of Engineers, San Francisco district office, took a leading part in estimating the costs of alternative expenditures. From a consideration of the data assembled in these studies it is found that the navigation benefits above Sacramento which are expected from the project could be provided by an alternative system of locks and dams. The total annual charge for such an alternative is estimated at \$816,000. Subtraction of the estimated operating charge of \$336,000 per year attributable to the supplemental channel work which will be needed down stream from Shasta Dam leaves \$480,000 per year as the value determined by the cost of alternative structures for the navigation benefits above Sacramento. It is further estimated that Shasta Reservoir will reduce navigation maintenance down stream from Sacramento by \$4,000 per year, which reduction the alternative system of locks and dams would not affect. An additional navigation benefit of Shasta Reservoir is its elimination of the necessity of constructing a barrier to prevent salt-water intrusion into the delta area. Such a barrier would seriously interfere with lower river navigation. In recognition of this benefit of Shasta Reservoir, Congress authorized a nonreimbursable expenditure of \$5,630,000. Such authorization is found in the approval of House Document No. 35, Seventy-third Congress, Second session, by the Rivers and Harbors Act of August 30, 1935 (49 Stat. 1038), in which a previously recommended Federal contribution to the

first cost of Shasta Reservoir for navigation benefits is increased by \$5,630,000 for the reason that the reservoir—

* * * by remedying the intrusion of salt water into the delta of the Sacramento and San Joaquin Rivers it eliminates from consideration Federal participation in the construction and operation at great cost of locks and structures to prevent such intrusion, and assures a free and open passage for highly important navigation through the channels of the delta

On the assumption that the operating expenses for the reservoir will be carried by revenue-producing functions, it is concluded that the capitalized value of \$484,000 annually plus \$5,630,000 may be taken as the capital value of Shasta Reservoir for navigation under the alternative-expenditure approach to the problem. Assuming that money costs the United States an average of 3 percent per annum and that the estimated benefits may be reasonably anticipated for a period of 50 years, it is indicated that the \$484,000 annual value would justify a capital expenditure of \$12,453,000. Addition of the \$5,630,000 results in the total capital value of \$18,083,000 for the navigation benefit of Shasta Reservoir under the alternative-expenditure approach to the problem.

The question as to whether or not the alternative expenditure is justified is determined by an evaluation of the benefits. The four types of benefits that were considered are shown below:

(1) Savings in transportation attributable to the possibility of increased navigation on the Sacramento River above Sacramento.

(2) Savings in cost of maintaining navigation depths in the Sacramento River below Sacramento because of increased minimum flow

(3) Savings in cost of maintaining navigation structures because of reduced action of marine borers attributable to decreased salt contents of the water.

(4) Savings in "defrosting" ocean-going vessels attributable to the shorter upstream travel needed before sufficiently fresh water is reached to remove marine growth.

The navigation benefits shown above are estimated to have an average value of \$1,325,400 annually, which is more than 50 percent greater than the estimated annual charges for the alternative system of locks and dams. The estimated cost of the alternative system of locks and dams is thus shown to be justified. Since the authorizing legislation for the Central Valley project states "That the said dam and reservoirs shall be used, first, for river regulation, improvement of navigation, and flood control; second for * * *" etc., it is mandatory that preference in operating the reservoirs be given to navigation and flood control. Accordingly, it is concluded that the full amount of the alternative justifiable expenditure, i. e., \$18,083,000, may be taken as the allocation to navigation.

(b) *Flood control.*—As with navigation, studies of the project's flood-control benefits and alternative methods of providing them were considered by a committee on the Central Valley project studies. It is estimated that benefits equivalent to those which will result from the proposed operation of Shasta Reservoir for flood control could be obtained by construction and operation of a reservoir having an active storage capacity of 1,300,000 acre-feet at the Table Mountain site. The first cost of such a reservoir is estimated at \$37,000,000

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and the total annual charges at \$1,500,000. The corresponding benefits are estimated to average \$703,600 per year. Since the estimated benefits are lower than the estimated alternative expenditure, the former is recognized as controlling in determining an alternative justifiable expenditure. No suitable alternative appears practicable for Millerton Lake. The estimated average benefit of \$291,500 per year is taken as a measure of the alternative justifiable expenditure applicable to Millerton Lake.

On the assumption that the operating expenses for the reservoirs will be carried by the revenue-producing functions it is concluded that the sum of the gross benefits for Shasta Reservoir and Millerton Lake, i. e., \$995,100 per year is applicable to fixed charges. Assuming that money costs the United States an average of 3 percent per year and the estimated benefits are reasonably anticipated for a period of 100 years, the capitalized value of the flood-control benefits is \$31,444,000. Since, as stated above, flood control along with navigation has a prior claim upon operation of the reservoirs, it is concluded that the full amount of the alternative justifiable expenditure (\$31,444,000) may be taken as the allocation to flood control.

(c) *Irrigation including salinity repulsion.*—An alternative supply of water for the project's irrigation and salinity-repulsion service could be provided by construction of reservoirs on the Feather River, the American River, and other tributaries to the Sacramento and San Joaquin Rivers or by constructing reservoirs at alternative sites on the Sacramento and San Joaquin Rivers. The extensive studies that have been made for the basin show, however, that the least expensive single-purpose system that would provide the project's irrigation and salinity-repulsion benefits is one having the same general design but with smaller units than those planned for the project. It is estimated that a reservoir on the Sacramento River having a capacity of 2,300,000 acre-feet would provide sufficient regulation for the proposed irrigation and salinity-repulsion services. The full capacity of Millerton Lake is needed, however, for the proposed irrigation service. It is estimated that a single-purpose alternate for Shasta Reservoir could be built for \$74,000,000 which cost added to the estimated cost of Millerton Lake (\$20,461,000) indicates an alternative cost of \$94,461,000 for irrigation and salinity-repulsion reservoir requirements. In addition the direct costs of \$112,658,783 for canals pumping plants, etc., would be included in the complete alternative irrigation project. In addition, electric power for project pumping would have to be purchased at rates that in view of the unfavorable load factor could not be expected to be less than 6 mills, as compared with the 2.5-mill rate under conditions of the multiple-purpose project. This would involve additional annual operating expenses of \$1,281,000 which capitalized at 3 percent for 50 years, would amount to \$32,960,000. The total estimated cost of the alternative irrigation-salinity control project would therefore amount to \$240,079,783. The total direct costs are \$133,505,842 leaving a remaining alternative of \$106,573,941.

There is no truly accurate basis for estimating the direct net irrigation benefit. These benefits will vary according to the actual disposition that is made of the water—a matter which cannot be fully determined in advance; and according to the long-time future course of agricultural prices—a matter which cannot be forecast with assurance. Much benefit will accrue, moreover, from lowered pumping

costs, reduction of crop loss from drought, and in prevention of a return to dry farming or dry land pasture of lands now under inadequate or precarious irrigation. Furthermore, as a purely practical consideration, the value of irrigation water to irrigators as reflected in terms of ability or willingness to pay will be critically influenced by the extent to which the value of irrigation water has been capitalized in advance in land values, and this, in the form of mortgages or other fixed capital costs represents an effective prior claim upon the irrigators' income.

A conservative indication of the valuation of the irrigation benefits can be obtained by analyzing a series of estimates of the net value per acre-foot of water at the farm applied to presently dry lands within the Central Valley of the same land types as those on which the water will actually be delivered, and assuming that conservative types of farming operations will prevail. While it is recognized that the project will provide a supplemental supply of water to lands now inadequately served and provide other types of irrigation benefits, as well as supply water to lands now dry, an analysis of its value when applied to dry land is considered a reasonable over-all approach. The series of per acre-foot farm benefits referred to ranges from approximately \$3 to \$15. An average of these benefits weighted according to the distribution of the water on varying soil types and for use with different crop patterns and with regard to the uses to which the water will most likely be put, can be established at a figure of \$6.50. If distribution system costs of \$2.35 on all water are deducted, and additional costs to the operator of \$1.50 for class II water, a total direct net annual irrigation benefit of \$6,591,605 is indicated. In addition to this, total benefits from salinity repulsion are estimated to average \$203,600 annually in prevention of crop damage and \$1,400,000 annually by permitting better and more profitable land use. These total annual irrigation and salinity-control benefits of \$8,195,205, capitalized at 3 percent for 100 years, give a figure of \$259,341,930. The priority-use allocation of \$189,673,533 is thus found to be less than either the estimated benefits or the estimated cost of providing the same irrigation and salinity-control benefits by an alternative single-purpose means, and is therefore considered reasonable as an allocation to the irrigation function (including salinity-repulsion services), exclusive of subsidiary costs (mainly fish protection), incidental to the performance of this function under the actual conditions of the project.

(d) *Municipal water supply.*—Municipal water rates to customers in Contra Costa County range from \$62 per acre-foot in Pittsburg to \$81 in Antioch. The East Bay municipal utility district, which serves Oakland, Berkeley, and adjoining communities near Contra Costa County, has a rate schedule ranging from \$98 per acre-foot to small customers to \$52 to large customers, and in addition collects a tax to assist in meeting its costs. No undeveloped sources of supply are known from which a lower-cost service could be provided, and it is doubtful that much additional water could be supplied from the existing sources at the present prices.

The costs of water shown above, which average \$73 per acre-foot, include costs for treatment and conveyance to actual consumers. After allowing for the treatment and conveyance costs applicable to

the proposed canal-side delivery of project water it is concluded that a price of \$10 per acre-foot would provide relatively cheap water for the users and at the same time be ample to cover all properly assignable project costs. Application of this rate to the expected sale of 68,000 acre-feet per year indicates an annual gross revenue of \$680,000. Subtraction of the estimated annual operating expenses of \$119,070 leaves \$560,930 per year available for fixed charges. Repayment in 50 years with interest at 3 percent per annum on the unpaid balance would require an annual fixed charge of 3.887 percent. Capitalizing the amount available for fixed charges on that basis as permitted under section 9 (c-2) of the Reclamation Project Act of 1939, indicates an alternative justifiable investment of \$14,431,000. It is concluded that this amount is properly allocable to the function of municipal water supply.

(e) *Commercial power.*—An estimate of the lowest cost of an alternative source for the project power capability necessitates a choice between hydroelectric and steam-electric facilities. Although there are many hydroelectric sites remaining to be developed, it is believed that a generating capacity comparable to that of the Shasta and Keswick power plants could not be developed at any available single-purpose hydro site to produce energy at a lower cost than equivalent steam-electric production. The conclusion is that the estimated cost of a steam-electric power plant and the current wholesale rates and rate trends of public utilities in the area to be served should be determined and jointly considered in estimating an alternative justifiable allocation for commercial power.

Assuming Antioch to be a suitable site for an alternative steam-electric power plant, it appears that it would be called on to have an assured net capacity of 351,000 kilowatts and to deliver a net output of 1,967,000,000 kilowatt-hours per year. Assuming the installation of 390,000 kilowatts, which would provide reasonable stand-by capacity, at \$100 per kilowatt inclusive of associated transformers and switching facilities, represents an investment of \$39,000,000. The estimated operating and maintenance expense, including an allowance for replacements, is \$6,765,000 per year. Addition of \$1,516,000 for 3 percent interest and 50-year amortization results in a total production cost of \$8,281,000 per year. Addition of that amount to the estimated cost of the commercial transmission plant (\$1,364,000) results in a total alternative cost or value of \$9,645,000 per year for the project's power system. Subtraction of the estimated operating expense of the project's power system as allocated to commercial power leaves \$5,171,000 per year for fixed charges. Capitalizing this amount on a 50-year repayment, 3-percent interest basis indicates a total capital value of \$133,047,000 for the commercial power system. Subtraction of the costs that have been allocated to commercial power for project features other than for reservoir storage (\$88,041,157) leaves \$45,005,843 as the remaining alternative investment. Evidence that the amount is justifiable expenditure is found in the fact that the basic alternative cost of production and transmission (\$9,645,000 annually) represents 5.50 mills per kilowatt-hour for the assumed firm energy. This is less than the average now paid by wholesale customers in the area under consideration.

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SUMMARY

The foregoing study shows the following partial allocations of project cost:

Partial allocation of estimated cost	
Navigation.....	\$18, 083, 000
Flood control.....	31, 444, 000
Irrigation, including salinity repulsion:	
Project water supply.....	133, 505, 842
Contra Costa distribution system.....	3, 074, 600
Canal capacity for future water.....	18, 815, 891
Municipal water.....	14, 431, 000
Commercial power.....	88, 041, 157
Unallocated joint costs.....	76, 918, 510
Total cost of project.....	384, 314, 000

The allocation of common costs was obtained as shown in the following table:

Functions	Alternative justifiable expenditure single-purpose project	Direct cost in multipurpose project	Remaining justifiable expenditure		Allocation of joint cost	Total allocations
			Amount	Percent		
Irrigation.....	\$240, 079, 783	\$133, 505, 842	\$100, 573, 941	70. 31	\$54, 081, 404	\$187, 587, 246
Commercial power.....	133, 047, 000	88, 041, 157	45, 005, 843	29. 69	22, 837, 106	110, 878, 263
Total.....	373, 126, 783	221, 546, 999	151, 579, 784	100. 00	76, 918, 510	298, 465, 609

The final allocation is shown below:

	Alternative justifiable expenditure:
Navigation.....	\$18, 083, 000
Flood control.....	31, 444, 000
Irrigation (including salinity repulsion).....	187, 587, 246
Contra Costa distribution system.....	3, 074, 600
Canal capacity for future water.....	18, 815, 891
Municipal water.....	14, 431, 000
Commercial power.....	110, 878, 263
Total.....	384, 314, 000

APPENDIX B

ALLOCATION OF COST BY A MODIFIED PROPORTIONATE USE METHOD

This section is directed to determining the part of the estimated cost of the Central Valley project which can properly be allocated to each of the project functions on the basis of an analysis embodying a special application to the circumstances of the Central Valley project of the theory of proportionate use. The proportionate use theory has been widely used in the past, and, modified to take into account the dominance of certain purposes and the actual operating priorities, as well as by the principle that, except for the dominant purpose of the project, no function should receive an allocation higher than the cost of an alternative single purpose means or the sum of the benefits, it is recognized to have approximate validity in application to the Central Valley project.

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The special purposes and circumstances of the Central Valley project consist principally of the fact that the predominant aim of the project is water conservation with particular reference to the large-scale transfer of water southward to bring land and water resources more nearly into balance. But the effecting of the predominant purpose of water transfer cannot be carried out in disregard of other legitimate public purposes of water management. Flood control reservations at the reservoirs must be maintained, and where navigation is concerned, minimum river depths must be assured. River regulation would fall short of its full public service potentialities if it did not at the same time offer the maximum feasible assurance against salt water intrusion into the rich delta lands—one of the initial motives for the project—and likewise provide a flow during the spawning and hatching season for fish propagation. The nature of these functions is such that, if they are performed at all, they must have an operational priority over the irrigation function. The electric power function is supplementary, and intended to insure full use of natural resources and to aid the project financially in its major purposes. Both in terms of fundamental purposes and of mandatory reservoir operation priorities power occupies a subordinate position in spite of the major contribution it makes toward the project financially.

As a first step in the allocation of costs, all capital costs incurred for features or other expense items that serve only a single purpose are charged entirely to that purpose or function. The joint power features are allocated between commercial power on the one hand and project pumping on the other on the basis of the kilowatt demand requirement of the latter, this being the factor that determines the amount of firm power that will be available for commercial sale.

The residual joint costs are then allocated among the various functions they serve on a proportionate basis but with regard to practical operating priorities that in effect regularly, occasionally, or potentially serve to favor one function to the disadvantage of another. The joint costs of Shasta Dam were distributed in the ratio for which releases were indicated in a hypothetical operation for a mean year composed of average monthly run-offs for the 22-year period, 1921-42, with all authorized features assumed to be in full operation. In view of the fact that almost all releases serve two or more purposes, the mandatory priority of operating purposes (first, river regulation, navigation, and flood control; second, irrigation; third, power) was considered governing in the sense that releases were not charged to second-priority purposes unless requirements for that purpose were in excess of current requirements for first priority. Releases serving two or more purposes within the same priority group were prorated according to the requirement. Fish protection was interpreted as included under river regulation, except that releases were charged to this function only if they exceeded the requirements for other first-priority demands. This requirement is that the river level cannot be lowered more than 6 inches below its height at the beginning of the spawning season in mid-October until late in winter. Allowances for delta consumptive use and for the satisfaction of preproject water rights along the Sacramento River were made corresponding to a safe estimate of established water rights. Inflow from tributary streams was considered on the basis of a corresponding 22-year mean. All figures were entered and computed on a monthly basis.

Table I presents the results of this initial priority-use allocation. This allocation, although not the final allocation, shows the actual capital costs, under the circumstances of the authorized features of the project, of providing for each of the functions that the project must serve. This allocation is then tested or adjusted by two steps. First, the costs incurred for functions or benefits provided by the project for which no present means exist for collecting from beneficiaries—mainly salinity control and fish protection—are reclassified so that the cost may be borne by revenue-producing functions. Second, the allocation to each of the assignable functions as derived from the priority-use analysis is examined on the basis of two criteria: (1) Is this allocation greater than the estimated benefit? (2) Is this allocation greater than the cost of providing an equal benefit by an alternative single purpose means? If either answer is in the affirmative, the lowest of the three is chosen as the final allocation.

Preliminary priority-use allocations must be tested by comparison with the benefits derived, and with the costs of alternative means of securing them. For navigation, a comprehensive study was made by a committee of the Central Valley project studies, in which personnel from the Corps of Engineers, San Francisco division office, took a leading part in estimating the cost of alternative expenditures. From a consideration of the data assembled in these studies, it is found that the navigation benefits above Sacramento which are expected from the project could be provided by an alternative system of locks and dams. The total annual cost of such a system was estimated at \$816,000. Subtraction of the estimated annual cost of \$336,000 for the supplemental channel work which will be needed with the present project leaves \$480,000 as the annual value of navigation benefits as tested by comparison with the cost of alternative structures, above Sacramento. Downstream from Sacramento, it is further estimated that Shasta Reservoir operation will reduce navigation maintenance by \$4,000 per year, which reduction the alternative system of locks and dams would not effect. An additional downstream navigation benefit of Shasta Reservoir is its elimination of the necessity of constructing a barrier to prevent salt water intrusion into the delta area. Such a barrier, which would be required in connection with the alternative system of locks and dams, would seriously interfere with lower river navigation. In recognition of this benefit of Shasta Reservoir, the Congress authorized a nonreimbursable expenditure of \$5,630,000 in its approval of House Document No. 35, Seventy-third Congress, second session, by the Rivers and Harbors Act of August 30, 1935 (49 Stat. 1038). On the assumption that operating expenses for the reservoir will be carried by revenue producing functions, it is concluded that the capitalized value of \$484,000 annually plus \$5,630,000 may be taken as the value of navigation benefits of Shasta Reservoir as measured by the cost of providing the same benefits by alternative means. Assuming capitalization at a 3-percent interest rate, and that the estimated benefits may be reasonably anticipated for a period of 50 years, the annual value of \$484,000 would justify a capital expenditure of \$12,453,000. This, with the addition of \$5,630,000, gives a total capitalized navigation benefit of \$18,083,000.

The types of benefits that were considered are as follows:

- (1) Savings in transportation attributable to the possibility of increased navigation on the Sacramento River above Sacramento.

(2) Savings in cost of maintaining navigation depths in the Sacramento River below Sacramento because of increased minimum flow.

(3) Savings in cost of maintaining navigation structures because of reduced action of marine borers attributable to decreased salt content of water.

(4) Savings in "defrosting" ocean-going vessels attributable to the shorter upstream travel needed before sufficiently fresh water is reached to remove marine growth.

The navigation benefits shown above are estimated to have an average annual value of \$1,325,400. The estimated cost of the alternative system of locks and dams is thus indicated to be less than the estimated benefits on the one hand, and less than the actual cost of providing the service under actual operating schedules of the present multiple-purpose project. It is concluded therefore that the full amount of the lesser of these three—\$18,083,000 as the cost of alternative single purpose structures—may be reasonably taken as the allocation to navigation.

As with navigation, the project's flood-control benefits, and alternative methods of providing them, were considered by the committees of the Central Valley project studies. On the basis of data utilized and presented by those committees, it was estimated that benefits equivalent to those which will result from the proposed operation of Shasta Reservoir for flood control could be obtained by construction and operation of a reservoir having an active storage capacity of 1,300,000 acre-feet at the Table Mountain site. The first cost of such a reservoir was estimated as \$37,000,000, and the total annual charges as \$1,500,000. The corresponding benefits were estimated to average \$703,600 per year. Since the estimated benefits are lower than the estimated alternative expenditure, the former is recognized as controlling. No suitable alternative appears practicable for Millerton Lake. The estimated average benefit of \$291,500 per year is taken as a measure of the alternative expenditure applicable to Millerton Lake. On the assumption that the operating expenses for the reservoirs will be carried by the revenue-producing functions, it is concluded that the gross flood-control benefits for Shasta Reservoir and Millerton Lake amount to \$995,100 per year. Assuming capitalization at a 3-percent interest rate, and that the estimated benefits may be reasonably anticipated for a period of 100 years, the annual value of \$995,100 would justify an expenditure of \$31,444,000. The benefits are thus estimated to be less than either the costs of alternative single purpose structures or the cost of providing the service under actual operating schedules of the present multiple-purpose project. It is concluded, therefore, that the full amount of the lesser of these three—\$31,444,000 as the amount of the estimated benefits—may reasonably be taken as the allocation to flood control.

An alternative supply of water for the project's irrigation and salinity repulsion service could be provided by construction of reservoirs on the Feather River, the American River, or other tributaries to the Sacramento and San Joaquin Rivers or by constructing reservoirs at alternative sites. The extensive studies that have been made for the basin show that the least expensive single-purpose system that would provide the project's irrigation and salinity repulsion benefits is one having the same general design but with

smaller units than those of the present project. It is estimated that a reservoir on the Sacramento River, having a capacity of 2,300,000 acre-feet, would provide sufficient regulation for the proposed irrigation and salinity repulsion services. The full capacity of Millerton Lake is needed, however, for the proposed irrigation service. It is estimated that a single-purpose alternate for Shasta Reservoir could be built for \$74,000,000, which cost added to the estimated cost of Millerton Lake (\$20,461,000) indicates an alternative cost of \$94,461,000 for irrigation and salinity repulsion reservoir requirements.

This figure of alternative reservoir costs is first to be compared with the capital cost of providing reservoir service under the present multiple-purpose project—\$39,687,252 for Shasta and \$16,268,150 for Millerton or a total of \$55,955,402 for both. For comparison with benefits, however, \$112,658,783 for canals, water rights, and other miscellaneous common costs, as in the present project, must be added. This results in an estimated cost of \$207,119,783 for a single-purpose alternative exclusive of power supply. To this figure must be added, however, the difference in operating costs in project power supply. Whereas the present multiple-purpose project, with a proportion of power costs allocated to irrigation, will obtain project pumping power for 2.5 mills per kilowatt-hour (as the equivalent of a share in power operation and maintenance expenses) the alternative here considered could hardly hope to secure such power services, with its unfavorable load factor, for less than 6 mills. This would involve additional annual operating expenses of \$1,281,000, which, capitalized at 3 percent for 50 years, would amount to \$32,960,000. The total cost of the alternative means may therefore be considered as \$240,079,783. To make the capital costs under the present project conditions truly comparable, the costs for fish protection, war protection measures, and recreation must properly be included (as indicated in the descriptions of these below). There must also be added the residuum of costs for flood control and navigation representing the difference between costs of providing these services as indicated by the priority-use allocation and the amounts actually allocated to these functions. The alternative cost of \$240,079,783 is therefore to be compared with the capital cost, under present multiple-purpose project conditions, of \$211,735,024. The present cost is thus indicated to be the lower of the two, and there is the additional practical advantage that only under the circumstances of such a multiple-purpose project as the present one would the irrigation and salinity repulsion functions have the opportunity of enjoying a large measure of financial assistance from sales of commercial power.

There is no fully accurate basis for estimating the direct net irrigation benefit. These benefits will vary according to the actual disposition that is made of the water—a matter which cannot be fully determined in advance; and according to the long-time future course of agricultural prices—a matter which cannot be forecast with assurance. Much benefit will accrue, moreover, from lowered pumping costs, reduction of crop loss from drought, and in prevention of a return to dry farming or dry-land pasture of lands now under inadequate or precarious irrigation. Furthermore, as a purely practical consideration, the value of irrigation water to irrigators as reflected in terms of ability or willingness to pay will be critically influenced by the extent to which the value of irrigation water has been capitalized

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in advance in land values, and this, in the form of mortgages or other fixed capital costs represents an effective prior claim upon the irrigators' income.

A conservative indication of the valuation of the irrigation benefits can be obtained by analyzing a series of estimates of the net value per acre-foot of water at the farm applied to presently dry lands within the Central Valley of the same land types as those on which the water will actually be delivered, and assuming that conservative types of farming operations will prevail. While it is recognized that the project will provide a supplemental supply of water to lands now inadequately served and provide other types of irrigation benefits, as well as supply water to lands now dry, an analysis of its value when applied to dry land is considered a reasonable over-all approach. The series of per acre-foot farm benefits referred to ranges from approximately \$3 to \$15. An average of these benefits weighted according to the distribution of the water on varying soil types and for use with different crop patterns, and with regard to the uses to which the water will most likely be put, can be established at a figure of \$6.50. If distribution system costs of \$2.35 on all water are deducted, and additional costs to the operator for class II water, a total direct net annual irrigation benefit of \$6,591,605 is indicated. In addition to this, total benefits from salinity repulsion are estimated to average \$203,600 annually in prevention of crop damage and \$1,400,000 annually by permitting better and more profitable land use. These total annual irrigation and salinity-control benefits of \$8,195,205, capitalized at 3 percent for 100 years, give a figure of \$259,341,930. The priority-use allocation of \$211,735,024 is thus found to be less than either the estimated benefits or the estimated cost of providing the same irrigation and salinity-control benefits by an alternative single-purpose means, and is therefore considered reasonable as an allocation to the irrigation function (including salinity-repulsion services), exclusive of subsidiary costs (mainly fish protection), incidental to the performance of this function under the actual conditions of the project.

An estimate of the lowest cost of an alternative source for the project power capability necessitates a choice between hydroelectric and steam-electric facilities. Although there are many hydroelectric sites remaining to be developed, it is believed that a generating capacity comparable to that of the Shasta and Keswick power plants could not be developed at any available single-purpose hydro site to produce energy at a lower cost than equivalent steam-electric production. The conclusion is that the estimated cost of a steam-electric power plant and the current wholesale rates and rate trends of public utilities in the area to be served should be determined and jointly considered in estimating an alternative cost and a comparable benefit.

Assuming Antioch to be a suitable site for an alternative steam-electric plant, it appears that it would be called on to have an assured net capacity of 351,000 kilowatts and to produce 1,967,000,000 kilowatt-hours per year net. Assuming the installation of 390,000 kilowatts, which would provide reasonable stand-by capacity, at \$100 per kilowatt inclusive of associated transformers and switching facilities, represents an investment of \$39,000,000. The estimated

operating and maintenance expense, including an allowance for replacements, is \$6,765,000 per year. Addition of \$1,516,000 for 3-percent interest and 50-year amortization results in a total production cost of \$8,281,000 per year. Addition of that amount to the estimated annual cost of the commercial transmission plant (\$1,704,000) results in a total alternative cost or value of \$9,985,000 per year for the project's power system. Subtraction of the estimated operating expenses of the project's power system as allocated to commercial power leaves \$5,511,000 per year for fixed charges. Capitalizing this amount on a 50-year repayment, 3-percent interest basis indicates a total capital value of \$141,797,000 for the commercial power system. Evidence of the comparable benefit is found in the fact that the basic alternative cost of production and transmission (\$9,985,000 annually) represents 5.69 mills per kilowatt-hour for the assumed firm energy. This is less than the average now paid by wholesale customers in the area under consideration but considerably more than the rate required to amortize the priority-use allocated under similar circumstances (in 50 years at 3 percent).

The function of fish protection, which in the priority-use allocation is shown separately, represents a cost which appears reasonably assignable to the primary irrigation purpose of the project inasmuch as the occasion for this expense would not have arisen had the project not been undertaken. The creation of a large reservoir closing off the upper tributaries of the Sacramento River would inevitably result in considerable damage to migratory fish unless compensatory measures were undertaken. Three measures to redress this damage have been adopted. First, a fish hatchery has been constructed; second, salmon are trapped and transferred to other spawning grounds; third, flow during the propagation season is regulated by Shasta Dam operation improving the spawning grounds between Keswick Dam and Red Bluff over preproject conditions, because of a more dependable minimum level of water, improved water temperature for spawning and reduced chance of destruction only in the course of time, but it is hoped and believed that a net improvement over preproject conditions will be attained.

The priority-use allocation to war protective measures (special wartime security personnel) and to recreation are likewise considered reasonably assignable to the major project functions. Although considerable recreational benefits are recognized, no satisfactory method has been found of stating them in terms comparable to other benefits.

The allocation of \$18,815,891 represents the proportion of the total direct cost of canal capacity in the Delta-Mendota and Contra Costa canals, and the Delta Cross Channel, that is in excess of the capacity needed to convey the waters made available by operation of the authorized storage features of the Central Valley project. This additional capacity has been included in present plans because of the strong probability that additional storage in the Sacramento River system will be available in the not too distant future and because reasonable estimates of future water requirements indicate the future need for such capacity.

The allocation of \$3,752,643 to municipal and industrial water supply is based on the proportion of total project water which, under present operational plans, may be reasonably assumed to be diverted for such uses.

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The allocation of capital costs, though not of probable repayment, may therefore be summarized as follows:

Cost allocation	
Nonreimbursable:	
Navigation.....	\$18, 083, 000
Flood control.....	31, 444, 000
Total nonreimbursable.....	49, 527, 000
Reimbursable:	
Irrigation including salinity repulsion.....	211, 735, 024
Contra Costa distribution system.....	3, 074, 600
Municipal water.....	3, 752, 643
Commercial power.....	97, 408, 842
Total.....	315, 971, 109
Canal capacity for future water.....	18, 815, 391
Total reimbursable.....	334, 787, 000
Total estimated cost of project.....	384, 314, 000

TABLE I.—Distribution of capital costs on a basis of priority-use ratios for an allocation of costs by a modified proportionate-use method

[All figures in parentheses refer to like figures in lower section of table, p. 42]

	Estimated capital cost	Direct reimbursable costs			Nonreimbursable costs		Functions for which costs are incurred without provision for reimbursement from beneficiaries				Future canal capacity
		Irrigation	Municipal and miscellaneous water supply	Commercial power	Flood control	Navigation	Salinity control and delta consumptive use	Fish protection	War protective measures	Recreation	
Power generation:											
Shasta power plant.....	\$18,309,200										
Keswick power plant.....	6,892,800										
Delta steam plant.....	26,141,000										
Total power generation (1).....	51,346,000	\$10,628,622	\$232,403	\$40,003,669			\$431,306				
Transmission system:											
Feeder lines and miscellaneous.....	14,883,000			14,883,000							
Project pumping transmission (2).....	864,000	809,395	21,773				32,832				
Joint-use facilities:											
West Side Line.....	10,500,000										
East Side Line.....	4,795,000										
Keswick to Delta Line.....	2,122,000										
Switchyards.....	14,124,000										
Substations.....	3,001,000										
Total joint use facilities (1).....	34,542,000	7,150,194	189,981	26,911,672			290,153				
Canal system:											
Delta Cross Channel (3).....	11,839,000	4,708,370	197,711				5,598,664				\$1,334,255
Contra Costa canal (4).....	5,439,300	2,455,300	2,595,634								388,366
Delta-Mendota canal (5).....	71,175,000	54,093,000									17,082,000
Madera canal.....	2,575,000	2,575,000			(11)						
Friant-Kern canal.....	36,834,000	36,834,000			(11)						
Storage facilities, Shasta Dam and Reservoir:											
River outlet valves and controls (6)....	3,522,920	58,833	1,409		\$3,228,404	\$90,891	91,596	\$51,787			
Flood control features.....	1,223,860				1,223,860						
Migratory fish control (including hatchery).....	1,669,700							1,669,700			
War protective measures.....	64,237								\$64,237		
Joint costs (7).....	108,171,883	16,972,168	411,053	9,367,685	23,841,083	22,326,677	22,564,655	12,688,562			

Storage facilities, Keswick Dam and Reservoir:												
Fish ladder and trap.....	200,500							200,500				
Joint costs (1).....	7,970,500	1,649,894	43,838	6,209,816			66,952					
Storage facilities, Friant Dam and Reservoir:												
Flood control features.....	807,000				807,000							
Irrigation outlets.....	553,000	553,000										
War protective measures.....	80,000								80,000			
Joint costs (8).....	19,021,000	15,715,150			3,305,850			(12)				
Water rights and miscellaneous:												
I. Water rights.....	5,367,100	5,367,100										
II. Water utilization studies:												
1. Sacramento seepage studies (9).....	161,000	24,247	580		39,929	37,383	37,609	21,252				
2. Sacramento River service area studies.....	100,000	100,000										
3. Delta area studies (3).....	100,000	39,770	1,670				47,290					11,270
4. Delta-Mendota service area studies.....	75,000	75,000										
III. Cooperation with other agencies through fiscal year 1947:												
1. Fish and wildlife investigations.....	92,000							92,000				
2. Cooperation with National Park Service.....	88,500									\$88,500		
3. Millerton Lake recreational expenses.....	50,000									50,000		
IV. Examinations and surveys (10).....	969,900	141,097	3,373	33,000	232,351	217,548	218,861	123,670				
V. Operation and maintenance, fish and wildlife.....	560,000							560,000				
VI. Operation and maintenance, through fiscal year 1947 (9).....	894,000	134,636	3,218		221,712	207,587	208,839	118,008				
Subtotal.....	381,239,400	160,084,776	3,752,643	97,408,842	32,900,189	22,880,086	29,588,757	15,525,479	144,237	138,500		18,815,891
Contra Costa distribution system.....	3,074,600	3,074,600										
Total.....	384,314,000	163,159,376	3,752,643	97,408,842	32,900,189	22,880,086	29,588,757	15,525,479	144,237	138,500		18,815,891

TABLE I.—Distribution of capital costs on a basis of priority-use ratios for an allocation of costs by a modified proportionate-use method—Con.

[All figures in parentheses refer to like figures in upper section of table, p. 40]

	Estimated capital cost	Direct reimbursable costs			Nonreimbursable costs		Functions for which costs are incurred without provision for reimbursement from beneficiaries				Future canal capacity
		Irrigation	Municipal and miscellaneous water supply	Commercial power	Flood control	Navigation	Salinity control and delta consumptive use	Fish protection	War protective measures	Recreation	
(1) Distributed on basis of peak demand (kilowatts)-----	Percent 106.00	Percent 20.70	Percent 0.55	Percent 77.91	Percent -----	Percent -----	Percent 0.84	Percent -----	-----	-----	Percent -----
(2) Distributed on basis of peak demand (kilowatts)-----	100.00	3.68	2.52	-----	-----	-----	.80	-----	-----	-----	-----
(3) Distributed on basis of capacity provided-----	100.00	39.77	1.67	-----	-----	-----	47.29	-----	-----	-----	11.27
(4) Distributed on basis of capacity provided-----	100.00	45.14	47.72	-----	-----	-----	-----	-----	-----	-----	7.14
(5) Distributed on basis of capacity provided-----	100.00	76.09	-----	-----	-----	-----	-----	-----	-----	-----	3.91
(6) It is expected that all 18 of the outlets may be occasionally required for flood control and that some of them may be occasionally required for other purposes. It is assumed that an equitable distribution would be 16/18 for flood control and 2/18 distributed on the basis of priority releases:											
Priority release percentages-----	100.00	15.06	.36	-----	24.80	23.22	23.36	13.20	-----	-----	-----
Multiplied by 11.11 percent (2/18)-----	11.11	1.67	.04	-----	2.75	2.58	2.60	1.47	-----	-----	-----
To flood control (16/18)-----	88.89	-----	-----	-----	88.89	-----	-----	-----	-----	-----	-----
Total distribution-----	100.00	1.67	.04	-----	91.64	2.58	2.60	1.47	-----	-----	-----
(7) All dead storage or 500,000/4,500,000 of total cost charged to power and distributed to functions on basis of peak demands. Remainder of costs distributed on priority release percentages determined from application of estimated requirements and established operating priorities under											

hypothetical full development of authorized CVP to stream flow for mean year of period 1921-42. Total distribution as follows:											
Priority release percentages.....	100.00	15.06	.36	-----	24.80	23.22	23.36	13.20	-----	-----	-----
Multiplied by 4,000,000/4,500,000 (live storage).....	88.89	13.39	.32	-----	22.04	20.64	20.77	11.73	-----	-----	-----
Percentage of peak demands.....	100.00	20.70	.55	77.91	-----	-----	.84	-----	-----	-----	-----
Multiplied by 500,000/4,500,000 (dead storage).....	11.11	2.30	.06	8.66	-----	-----	.09	-----	-----	-----	-----
Total distribution (dead and live storage) (percentage).....	100.00	15.69	.38	8.66	22.04	20.64	20.86	11.73	-----	-----	-----
(8) Distributed on basis of storage used.....	100.00	82.62	-----	-----	17.38	-----	-----	-----	-----	-----	-----
(9) Distributed on priority release percentages.....	100.00	15.06	.36	-----	24.80	23.22	23.36	13.20	-----	-----	-----
(10) \$37,000 for power market studies charged to power, the remainder distributed to other functions on priority-release percentages.....											
(11) It is expected that the Madera and Friant-Kern Canals may be used in part for flood control, but no dependable estimate of the degree of use is available.											
(12) Some releases may be made at times to assure a flow for fish protection. However, it is not yet clear what amount will be used.											

CENTRAL VALLEY FEDERAL RECLAMATION PROJECT

APPENDIX C

CORRESPONDENCE RELATING TO THE ALLOCATIONS TO NAVIGATION
AND FLOOD CONTROLDEPARTMENT OF THE INTERIOR,
*Washington, December 4, 1945.*HON. ROBERT P. PATTERSON,
Secretary of War.

MY DEAR MR. SECRETARY: Pursuant to section 7 (b) of the Reclamation Project Act of 1939, I am preparing to submit to the President and to the Congress in compliance with the provisions of section 9 (a) of that act a report and findings concerning allocations of cost pertaining to the Central Valley project in California now in the course of construction by the Bureau of Reclamation of this Department. The estimated construction cost of the project is \$384,314,000.

Section 9 (b) of the act previously referred to provides for consultation with the Chief of Engineers and the Secretary of War with respect to the allocations to navigation and flood control. As you know, the subcommittee which prepared the report on problems 8 and 9 of the Central Valley studies devoted much study to the matter of a proper allocation of costs to flood control and navigation. The sum of \$49,528,000 was concluded by that subcommittee to be an appropriate amount for such allocation. Incident to their participation in these studies representatives of the San Francisco district engineer's office, Corps of Engineers, of your Department concurred in the results. Except for a minor refinement in the arithmetical computation slightly reducing the amount, the Bureau of Reclamation's review of the portion of the report (on problem No. 9) pertaining to the allocation to flood control and navigation and its full exploration of the subject has verified the adequacy of the methods employed and the results attained.

Having now given to the matter the fullest consideration, I have concluded that \$49,527,000 of the estimated cost of the project is properly allocable to flood control and navigation which includes the sum of \$12,000,000, specifically made nonreimbursable by the provisions of section 2 of the act of August 26, 1937 (50 Stat. 850).

It is important that I submit my report and findings to the President and the Congress at the earliest possible date. I therefore request your comments and, if you deem it appropriate, your concurrence as soon as you are in a position to reply.

Attached for your information and as an aid to your consideration of this matter is a draft of the pertinent sections of my proposed report dealing with the allocation of costs to navigation and flood control on the Central Valley project.

An identical letter has been sent to the Chief of Engineers.

Sincerely yours,

ABE FORTAS,
Acting Secretary of the Interior.

(a) *Navigation.*—For navigation, a comprehensive study was made by a committee on the Central Valley project studies, in which personnel from the Corps of Engineers, San Francisco district office, took a leading part in estimating the costs of alternative expenditures. From a consideration of the data assembled in these studies it is found that the navigation benefits above Sacramento which are expected from the project could be provided by an alternative system of locks and dams. The total annual charge for such an alternate is estimated at \$816,000. Subtraction of the estimated operating charge of \$336,000 per year

attributable to the supplemental channel work which will be needed downstream from Shasta Dam leaves \$480,000 per year as the value determined by the cost of alternative structures for the navigation benefits above Sacramento. It is further estimated that Shasta Reservoir will reduce navigation maintenance downstream from Sacramento by \$4,000 per year, which reduction the alternative system of locks and dams would not affect. An additional navigation benefit of Shasta Reservoir is its elimination of the necessity of constructing a barrier to prevent salt-water intrusion into the delta area. Such a barrier would seriously interfere with lower-river navigation. In recognition of this benefit of Shasta Reservoir, Congress authorized a nonreimbursable expenditure of \$5,630,000. Such authorization is found in the approval of House Document No. 36, Seventy-third Congress, second session, by the Rivers and Harbors Act of August 30, 1935 (49 Stat. 1038), in which a previously recommended Federal contribution to the first cost of Shasta Reservoir for navigation benefits is increased by \$5,630,000 for the reason that the reservoir "* * *" by remedying the intrusion of salt water into the delta of the Sacramento and San Joaquin Rivers it eliminates from consideration Federal participation in the construction and operation at great cost of locks and structures to prevent such intrusion and assures a free and open passage for highly important navigation through the channels of the delta."

On the assumption that the operating expenses for the reservoir will be carried by revenue-producing functions, it is concluded that the capitalized value of \$484,000 annually plus \$5,630,000 may be taken as the capital value of Shasta Reservoir for navigation under the alternative expenditure approach to the problem. Assuming that money costs the United States an average of 3 percent per annum and that the estimated benefits may be reasonably anticipated for a period of 50 years, it is indicated that the \$484,000 annual value would justify a capital expenditure of \$12,453,000. Addition of the \$5,630,000 results in a total capital value of \$18,083,000 for the navigation benefit of Shasta Reservoir under the alternative-expenditure approach to the problem.

The question as to whether or not the alternative expenditure is justified is determined by an evaluation of the benefits. The four types of benefits that were considered are shown below.

(1) Savings in transportation attributable to the possibility of increased navigation on the Sacramento River above Sacramento.

(2) Savings in cost of maintaining navigation depths in the Sacramento River below Sacramento because of increased minimum flow.

(3) Savings in cost of maintaining navigation structures because of reduced action of marine borers attributable to decreased salt content of the water.

(4) Savings in "defrosting" ocean-going vessels attributable to the shorter upstream travel needed before sufficiently fresh water is reached to remove marine growth.

The navigation benefits shown above are estimated to have an average value of \$1,325,400 annually, which is more than 50 percent greater than the estimated annual charges for the alternative system of locks and dams. The estimated cost of the alternative system of locks and dams is thus shown to be justified. Since the authorizing legislation for the Central Valley project states "That the said dam and reservoirs shall be used, first, for river regulation, improvement of navigation, and flood control; second for * * *" etc., it is mandatory that preference in operating the reservoirs be given to navigation and flood control. Accordingly, it is concluded that the full amount of the alternative justifiable expenditure, i. e., \$18,083,000, may be taken as the allocation to navigation.

(b) *Flood control.*—As with navigation, studies of the project's flood-control benefits and alternative methods of providing them were considered by a committee on the Central Valley project studies. It is estimated that benefits equivalent to those which will result from the proposed operation of Shasta Reservoir for flood control could be obtained by construction and operation of a reservoir having an active storage capacity of 1,300,000 acre-feet at the Table Mountain site. The first cost of such a reservoir is estimated at \$37,000,000 and the total annual charges at \$1,500,000. The corresponding benefits are estimated to average \$703,600 per year. Since the estimated benefits are lower than the estimated alternative expenditure, the former is recognized as controlling for an alternative-justifiable expenditure. No suitable alternate appears practicable for Millerton Lake. The estimated average benefit of \$291,500 per year is taken as a measure of the alternative-justifiable expenditure applicable to Millerton Lake.

On the assumption that the operating expenses for the reservoirs will be carried by the revenue producing functions it is concluded that the sum of the gross benefits for Shasta Reservoir and Millerton Lake, i. e., \$995,100 per year is applicable to fixed charges. Assuming that money costs the United States an average of 3 percent per year and the estimated benefits are reasonably anticipated

for a period of 100 years, the capitalized value of the flood-control benefits is \$31,444,000. Since, as stated above, flood control along with navigation has a prior claim upon operation of the reservoirs, it is concluded that the full amount of the alternative justifiable expenditure (\$31,444,000) may be taken as the allocation to flood control.

WAR DEPARTMENT,
Washington 25, D. C., July 16, 1946.

The honorable the SECRETARY OF THE INTERIOR.

DEAR MR. SECRETARY: Further reference is made to letters dated December 4, 1945, from Acting Secretary Abe Fortas, addressed to the Secretary of War and to the Chief of Engineers, concerning the proper allocation of the costs of the Central Valley project in California to flood control and navigation under sections 7 (b) and 9 (a) of the Reclamation Project Act of 1939. As stated in Mr. Fortas' letter, section 9 (b) of that act provides for consultation with the Chief of Engineers and the Secretary of War with respect to the allocations to navigation and flood control. Mr. Fortas' letter refers to the studies of the subcommittee which prepared the report on problems Nos. 8 and 9 of the Central Valley project studies and to the subcommittee's finding that the sum of \$49,528,000 was an appropriate amount for such allocation. Mr. Fortas states in his letter that he concludes that the amount properly allocable to flood control and navigation is \$49,527,000, which includes the sum of \$12,000,000 specifically made nonreimbursable by the provisions of section 2 of the act of August 26, 1937, and which corresponds to the allocation arrived at by the subcommittee, except for a minor refinement in arithmetical computations amounting to \$1,000. Of the sum of \$49,527,000, the proposed allocation to flood control is \$31,444,000 and the remaining balance of \$18,084,000 is allocated to navigation. Of the allocation of \$18,084,000, \$12,454,000 is predicated essentially upon future navigation improvement above Sacramento and the remaining \$5,630,000 is an allowance for elimination of the need for constructing a salt-water barrier in the delta area.

I am pleased to inform you that subject to the comments below I concur in general with the findings of the subcommittee in this case, and I have concluded that the only practicable allocation of costs in this specific instance is one in which the allocations to flood control, navigation, and power are based on "ceiling" allocations as defined by the subcommittee, and only such part of the cost of the project as could not be allocated to other sources is considered as allocable for direct repayment by users of irrigation water.

As to the proposed allocation to flood control, I concur in the estimate of annual flood-control benefits on which the proposed allocation of \$31,444,000 proposed by the subcommittee was based. I consider, however, that the capitalization of the flood-control benefits should be based on a 50-year period to conform to long-standing War Department practice, rather than on a 100-year period as proposed by the subcommittee. The proposed 100-year period, in my opinion, is an unreasonably long period for prediction of the economic worth of flood-control measures and, furthermore, is inconsistent with the 40-year and 50-year periods used for the predicted span of usefulness of the other functions of the project. On the basis of a 50-year amortization period, the capitalization of the flood-control benefits amounts to \$25,604,000, which I consider the proper allocation to flood control in this case.

CENTRAL VALLEY FEDERAL RECLAMATION PROJECT

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As to the proposed navigation allocation of \$18,083,000, I concur in the item of \$12,454,000. As to the balance of \$5,630,000, may I point out that in the report of this Department on the Sacramento River, Calif., deep-water channel, submitted to Congress on March 20, 1946, and published as Senate Document No. 142, Seventy-ninth Congress, provision is made for salinity-control works, when found necessary, at an estimated maximum cost of \$2,000,000. This is in line with the Secretary of the Interior's letter of January 22, 1946, printed on pages 2 and 3 of the document, recommending that provision be made for the future construction of a low lift ship lock near the lower end of the ship channel to eliminate tidal movement above the lock. In the event such a lock is later provided, it appears that the navigation (salinity control) cost allocation of \$5,630,000 would be excessive. In view of the above and in the light of more recent study, information will be appreciated as to whether the Interior Department wishes to express any further view concerning the appropriateness of the proposed cost allocation of \$5,630,000.

Sincerely yours,

ROBERT P. PATTERSON,
Secretary of War.

THE SECRETARY OF THE INTERIOR,
Washington, August 5, 1946.

HON. ROBERT P. PATTERSON,
Secretary of War.

MY DEAR MR. SECRETARY: Reference is made to your letter of July 19, replying to the letter of December 4, 1945, from Acting Secretary Abe Fortas, on the subject of proper allocations of estimated costs of the Central Valley project, California, to flood control and navigation.

I am pleased to note your concurrence with the estimate of annual flood-control benefits on which the allocation to flood control is based. You are of course aware that the estimate of flood-control benefits, if based on the higher level of agricultural prices assumed in current estimates of flood-control benefits to be derived from presently proposed flood-control projects, would be substantially greater. For the purpose of insuring conformity with other benefit calculations used in the report, as well as with the views of the subcommittee of the Central Valley project studies, including personnel from the San Francisco division office, Corps of Engineers, which investigated this problem, no changes were made in estimates either of benefits or of the costs of alternative structures to provide these benefits by single-purpose means. Approval of these results followed an examination of the methods employed and the results obtained.

I am not aware that any predictions whatsoever have been made that the span of usefulness of any of the functions of the project is limited to a 40-year or 50-year period. It is indeed intended that the repayment of reimbursable costs will be provided for within such periods, but the determination of these repayment periods is based on factors other than the reasonable life of the project. There is no relationship, real or intended, between these periods and the anticipated life of the physical structures involved other than that repayment should be accomplished well within the useful life of the project as a whole. Because of the low siltation rates in Shasta and Friant

Reservoirs, and because of the durable character of the dams and appurtenant structures, they may very reasonably be expected to maintain their usefulness for a considerably longer period than 100 years. I am sure you will agree that it is highly improbable, moreover, that in the case of this well-developed area the benefits of flood control will diminish; the greater probability, in fact, is that the benefits will increase over the longer period as population and agricultural development increase.

In respect to your question regarding the \$5,630,000 portion of the navigation allocation, it will be remembered that in Rivers and Harbors Committee Document No. 35, Seventy-third Congress, second session, which was approved by the act of August 30, 1935, the Chief of Engineers recommended that the Federal contribution to the cost of Shasta Dam, then proposed to be constructed by the State of California, should be increased by \$5,630,000 in recognition of the fact that the maintenance of a flow of 5,000 cubic feet per second at a point of measurement above Sacramento (as now embodied in the operating schedules for Shasta Dam), "by remedying the intrusion of salt water into the delta of the Sacramento and San Joaquin Rivers * * * eliminates from consideration Federal participation in the construction and operation at great cost of locks and structures to prevent such intrusion, and assures a free and open passage for the highly important navigation through the channels of the delta." (Rivers and Harbors Doc. 35, 73d Cong., 2d sess., p. 4.)

The current proposal, as referred to in your letter of July 19 and in Senate Document 142, Seventy-ninth Congress, second session, is an entirely new plan for a new ship channel for oceangoing vessels in the Sacramento River Valley that is in addition to the navigation improvements contemplated in the Rivers and Harbors Act of August 30, 1935, the conditions of which were the basis of the calculation of the \$5,630,000 benefit and of the nonreimbursable expenditure authorized by the Congress.

As pointed out in paragraph 70 of House Document No. 142, Seventy-ninth Congress, second session, construction of the proposed deep-water ship channel will increase the tidal prism in the Sacramento-San Joaquin delta area by approximately 5 percent and the net effect of this, unless compensated for by increased fresh-water flow into the delta, or by other means, will tend to increase saline conditions throughout the delta area. The recommendation of this Department that provisions be made for the future construction of a low lift ship lock near the lower end of the ship channel to eliminate tidal movement above the lock would provide compensation only for the adverse effects of saline movements that would be created by the new deep water channel. It would in no way concern present conditions or the conditions that prompted the Congress to authorize the nonreimbursable expenditure of \$5,630,000, except that it assumes continuance of the conditions upon which this portion of the allocation is based.

For the foregoing reasons, I am retaining, for the purposes of my report, the allocations to flood control and navigation in the amounts indicated in Mr. Fortas' letter of December 4, 1945.

Sincerely yours,

J. A. KRUG,
Secretary of the Interior.

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IRRIGATION RATESETTING DOCUMENT

CENTRAL VALLEY PROJECT
CALIFORNIA

Description of the
Component with Individual Contractor Deficits
Ratesetting Method

1988

Department of the Interior

Bureau of Reclamation
Mid-Pacific Region
Sacramento, California

A586

PURPOSE AND BACKGROUND

The purpose of this document is to present the procedures and methodologies utilized in calculating water rates for the Central Valley Project (CVP) under the Component with Individual Contractor Deficits Ratesetting Method and to provide a brief history of the CVP and the different ratesetting methods that have been utilized since its beginning. Also included is a description of the cost allocation procedures used in the CVP, a description of many of the premises included in the ratesetting method and a detailed description of the procedures utilized in computing water rates under the Component with Individual Contractor Deficits Ratesetting Method.

Background

The CVP was first authorized by the California Legislature as a State project. Approved by the Governor on August 5, 1933, the CVP immediately became the subject of a State referendum petition which required that the CVP be approved by the electorate. The election was held in December 1933, and the CVP was approved by the voters.

State officials then turned to the problem of financing the CVP. The State Legislature had authorized the sale of public bonds as a means of financing the construction of the CVP, but the public bonds were found to be unmarketable. Requests for Federal grants and loans to aid in the financing of the CVP were submitted and turned down. Because of the financing difficulties, State officials then asked the Federal Government to undertake construction of the CVP.

CVP Legislative History

The U.S. Congress authorized construction of the initial CVP facilities in the River and Harbors Act of August 30, 1935 (49 Stat. 1028, 1038). The Act authorized the U.S. Army Corps of Engineers to construct the following project facilities: the Shasta, Keswick, and Friant Dams, the Tracy Pumping Plant, the Delta-Mendota and Friant-Kern Canals, and the Contra Costa Canal and related facilities. On September 10, 1935, the President signed an Executive Order which transferred \$20 million of Emergency Relief Act funds to the Department of the Interior for construction of Friant Dam and the other features of the initial CVP. The finding of feasibility on which to base the reauthorization of the CVP under provisions of the Reclamation Act of June 17, 1902 (32 Stat. 388), and all acts amendatory and supplementary thereto, was approved by the Secretary of the Interior and the President on October 26, 1935 and December 2, 1935, respectively.

Congressional reauthorization of the initial CVP facilities under Reclamation law was provided for in Section 2 of the River and Harbors act of August 26, 1937 (50 Stat. 844) and in the River and Harbors Act of October 17, 1940 (54 Stat. 1198). Since then, the Congress has authorized the construction and operation of several additional CVP units, divisions and facilities.

In many cases, the legislation authorizing the construction and operation of a new CVP unit, division or facility included language reauthorizing the entire CVP. Regardless of whether or not the entire CVP was reauthorized, however, the authorizing legislation consistently contained language requiring the new unit, division or facility to be operated and repaid as an integral part of the CVP.

Additional units and facilities authorized as integral parts of the CVP include: the American River Division (Folsom, Nimbus, and Sly Park Dams and related facilities) (Act of October 14, 1949, 63 Stat. 852); the Sacramento Valley irrigation canals (Red Bluff Diversion Dam, Corning Canal, and Tehama-Colusa Canal) (Act of September 26, 1950, 64 Stat. 1036); the Trinity River Division (Act of August 12, 1955, 69 Stat. 719); the San Luis Unit (June 3, 1960, 74 Stat. 156); the New Melones, Hidden and Buchanan Projects (October 23, 1962, 76 Stat. 1191 and 1192); the

Auburn-Folsom South Unit (Act of September 2, 1965, 79 Stat. 615); the San Felipe Division (Act of August 27, 1967, 81 Stat. 173); the Black Butte Project (Act of October 23, 1970, 84 Stat. 1097); and the Allen Camp Unit (Act of September 28, 1976, 90 Stat. 1328).

Water supplies produced by the CVP are marketed primarily pursuant to the Reclamation Project Act of August 4, 1939 (53 Stat. 1187). This Act provides the basic concepts and provisions included in all CVP repayment and water service contracts. In addition, the Acts of July 2, 1956 (Public Law 84-643, 70 Stat. 483) and June 21, 1963 (Public Law 88-44, 77 Stat. 68) contain provisions applicable to the renewal of Federal Reclamation water service contracts.

The Reclamation Reform Act of 1982 (Public Law 97-293, 96 Stat. 1263) was signed by the President on October 12, 1982. While retaining the basic principle of limiting the amount of owned land which may receive irrigation water deliveries from Reclamation projects, the Act introduced the concept of full-cost pricing (including interest on the unpaid plant investment) for certain irrigation water deliveries to leased lands.

The Act of October 17, 1986, (Public Law 99-546), was signed by the President on October 27, 1986. This Act codified certain existing CVP ratesetting practices (such as the automatic adjustment of water rates in new and/or amended contracts to ensure payout of the existing Federal investment by the year 2030) and provided for some new CVP ratesetting provisions including the last sentence in Section 105 with respect to the adjustment of individual contractor's ability to pay determinations every 5 years and Section 106 which requires that each new or amended contract for the delivery of water from the CVP include provisions requiring each contractor to pay any annual deficit incurred by that contractor together with interest on any such deficit which arises on or after October 1, 1985.

History of CVP Water Ratesetting Policies

1940-1969

The first CVP water service contracts were negotiated and entered into during the late 1940's. The initial CVP water rate structure consisted of a graduated scale, ranging from \$2.00 per acre-foot for irrigation water in the Sacramento Valley (near the source of supply) to \$3.50 per acre-foot for irrigation water service in the San Joaquin Valley (south of the Delta formed by the Sacramento and San Joaquin Rivers). The same water rates applied to all of the contractors in each service area regardless of the contract date. While contracts did not include provisions for rate changes, uniform contract expiration dates were used in some service areas in order to facilitate service area contract negotiations upon renewal.

The San Luis Unit was authorized in 1960 based on a feasibility report which contained an irrigation water service rate of \$7.50 per acre-foot. This rate was included in the San Luis service area contracts with the rate remaining constant throughout the 40-year term of the contracts.

By the mid-1960's, the repayment status of the CVP indicated that water rates were too low and that fixed rate contracts for 40 years would not produce sufficient revenues to recover both increasing annual operating costs and the sunk capital investment costs. Steps were taken to modify the ratesetting policy for new contracts in order to provide for rate adjustments during the term of each new contract and ensure the recovery of the escalating cost of operations.

1970-1980

Major revisions to the CVP ratesetting policy were proposed in 1970. Under that proposal, irrigation water service rates would be based on 75 percent of the irrigator's available payment capacity, but the rate structure would include

separate segments for annual operating costs and capital investment costs. The annual operating cost segment was to be adjustable at 5-year intervals in order to facilitate the full recovery of actual operation, maintenance and replacement expenses. The capital segment was to be adjusted in the 20th and 30th years of the 40-year water service contract, and the adjustment was to be based on a reevaluation of the irrigator's payment capacity in each of those 2 years.

The 1970 ratesetting policy proposal was based on three major component charges for services provided by the CVP:

A Delta Service Charge for storage north of the Delta. This component would be subject to change in 1996 and every 5 years thereafter, with a maximum change of 20 percent for each 5-year adjustment. Further, financial assistance in the form of municipal and industrial water supply revenues was specifically included in the irrigation water rate calculations. The amount of aid was limited to 20 percent of the total revenue credited for repayment of the Delta service costs. The 1996 date was selected because it coincided with a major portion of the CVP's municipal and industrial water contract renegotiations.

A Conveyance Charge to reflect the contractor's share of CVP costs associated with the specific conveyance facilities being used to serve the contractor. This component was adjustable 5 years after the initial water delivery date and at the end of each 5-year period thereafter.

A Pumping Charge for the use of CVP pumping facilities in the delivery of water to the contractor. The pumping charge was adjustable at the same time as the Delta Service Charge.

Implementation of the irrigation portion of the 1970 proposed policy never occurred because there were no new CVP irrigation contracts executed between the completion of that policy and 1974 when revisions to the ratesetting policy were adopted.

In 1974, the concept of determining CVP water rates based on the actual cost of providing water service to each contractor (cost-of-service) was introduced. Under this concept, water rates for new contracts were to be equal to the lesser of the cost-of-service or the irrigator's payment capacity. The repayment of irrigation capital costs that were beyond the irrigator's ability to pay were to be recovered from the surplus revenues from power and municipal and industrial water sales.

In the cost-of-service concept, the single or "pooled" storage procedure was extended from just those north of the Delta (Delta Service Charge), to the pooling of the costs of all of the CVP storage reservoirs. Therefore, all CVP water users would share equally (on a cost per acre-foot basis) in the repayment of total CVP storage costs. It was proposed that all conveyance charges would be "pooled" and a single CVP-wide charge would be made for conveyance services received. Accordingly, all contractors requiring conveyance services would also share equally (on a cost per acre-foot basis) in the repayment of the conveyance costs of the CVP.

Along with this major change in the rate determination process, all new CVP water service contracts executed during the period 1974 through 1978 included some form of provision for water rate adjustments. Between 1979 and the enactment of the Reclamation Reform Act of 1982, all new CVP irrigation water service contracts included a provision for rate adjustments at 5-year intervals.

Another major revision in the irrigation ratesetting policy was the establishment of a minimum CVP water rate of \$3.50 per acre-foot. That rate was deemed sufficient when it was established as the rate met all costs associated

with the delivery of CVP water from storage. It was anticipated that over time the minimum charge would have to be adjusted to reflect increases in project construction costs and annual operating expenses.

In January 1978 and September 1979, the Office of the Inspector General of the Department of the Interior issued audit reports which were critical of several of the water marketing, financial, and ratesetting practices in the CVP. These reports stated that all of the reimbursable functions of the CVP were in serious financial trouble and would continue to be so unless basic operation policies, contract terms, rate adjustment provisions and, possibly, existing laws were changed. The audit reports stated that the problem was the cumulative result of actions taken during many years and that the Bureau of Reclamation, the Department of the Interior and Congress must share the responsibility for this situation.

1981-1983

In January 1981, a draft CVP ratesetting policy was released for public review and comment. The draft policy included four types of service charges: water marketing storage, conveyance and project pumping. The charge for each service included components for recovery of the applicable capital and annual operating costs. The total rate to be applied to each water user depended on the number of CVP services required to deliver water to that particular contractor. The per acre-foot irrigation charge was based on the lesser of the actual cost-of-service or the irrigator's payment capacity, but in no case was the irrigation rate to be less than the actual operation, maintenance and replacement expenses. In addition, the draft policy included the \$3.50 per acre-foot minimum charge for CVP irrigation service.

The 1981 draft policy provided for the repayment of CVP costs allocated to irrigation within 50 years from the time each major CVP addition became operational. Under this concept, revenues in excess of actual operating expenses were applied towards the repayment of the older additions first, thereby meeting the "repayment within 50 years" criterion. The water deliveries used in the water rate calculations were the total of the most recent forecast of CVP irrigation deliveries for the next 50 years, beginning in the year in which the calculations were made. The deliveries in any given year were subject to the maximum available capacity of the CVP facilities included in the cost base.

Also included in the draft ratesetting policy was a provision for rate adjustments every 5 years. Accordingly, the water service rate-for each contractor would be adjusted every 5 years to reflect the plant investment projected to be in-service during the next 5-year period and the annual operating expenses associated with the in-service facilities. In this way, each irrigation water user would be paying for an equitable share of the CVP services expected to be made available during the 5-year period.

Public hearings on the draft CVP water ratesetting policy were held at several locations, and a formal comment period was established for the purpose of obtaining input on the draft policy from CVP water users, various governmental entities, special interest groups and the general public. Many comments were received and most of them suggested that modifications to the proposed policy were needed or that other ratesetting options should be considered.

By memorandum dated April 10, 1981, the Office of the Inspector General stated that the draft ratesetting policy resolved some, but not all, of their audit concerns. The unresolved issues have remained as such in the Inspector General's semiannual report on outstanding issues.

The draft 1981 ratesetting policy was further impacted by the enactment of the Reclamation Reform Act of 1982, which included several financial and repayment requirements that were neither provided for, nor envisioned, in the draft proposal.

1984-Present

In response to the above described factors, the draft 1981 ratesetting policy was reanalyzed, proposed methodologies were revised to reflect the public comments previously received, principles and requirements of the Reclamation Reform Act of 1982 (RRA) were incorporated and alternative ratesetting methods were developed. The resulting ratesetting proposal provided several optional methods and was released for public review and comment in April 1984. In May 1984, public workshops were presented in three different locations to discuss the ratesetting methods and to answer questions. Subsequently, three formal public hearings were held to receive testimony and comments and all comments and statements received at the public hearings were recorded for use in finalizing the ratesetting approval.

The formal comment period was extended twice because of the interest and efforts demonstrated by the persons reviewing the ratesetting proposals. On September 21, 1984, the comment period officially closed and the internal finalization of the ratesetting policy began.

The CVP water users, governmental entities, special interest groups and other interested parties provided extensive comments on the ratesetting options included in the April 1984 proposal. In response to these comments, the Bureau developed and evaluated several additional ratesetting methodologies. The number of optional CVP ratesetting methods was eventually reduced to the six considered most viable. After water rates were calculated under each of these six ratesetting methods, each of the methods received extensive review and analysis at both the Regional and Washington levels.

In the final stages of these evaluations, the Congress enacted Public Law 99-546. Section 106 of that Public Law mandated the determination of individual contractor repayment and/or deficit balances and precluded the adoption of CVP ratesetting options previously under consideration that would have pooled operation and maintenance deficits CVP-wide for repayment. Additionally, this Public Law provided that interest would be calculated on operation and maintenance deficits accruing on or after October 1, 1985.

On May 4, 1987, the Assistant Secretary of the Interior for Water and Science proposed the Component with Individual Contractor Deficits Ratesetting Method as the new irrigation ratesetting policy for the CVP. Adoption of the proposed policy was subject to the results of a 60 day public review and comment period with the policy to become final in 120 calendar days unless the public comments justified reconsideration of the proposed policy.

Informal workshops to further explain the proposed ratesetting policy and the applicable supporting calculations were held on June 1 and 4, 1987 and a public hearing was held on June 16, 1987. A total of 397 public comments were received which were determined to be applicable to various provisions of the proposed ratesetting policy or applicable Reclamation laws. All comments applicable to the proposed ratesetting policy were reviewed, summarized and collated into a document entitled "Summary of Irrigation Ratesetting Policy Public Review Comments and Responses". This document summarizes the 397 public review comments into 91 general comments and provides responses to each of the generalized comments.

After a thorough review of the comments, it was determined that the expressed concerns were not significant enough to justify reconsideration or amendment of the proposed ratesetting policy. A copy of the "Summary of Irrigation Ratesetting Policy Public Review Comments and Responses" will be sent to each of the participants in the public review process upon formal approval of the proposed ratesetting policy.

As of March 1, 1988, the Component with Individual Contractor Deficits Ratesetting Method is in the offices of the Secretary of the Interior for adoption as the irrigation ratesetting policy for the CVP.

CVP COST ALLOCATION PROCEDURES

The cost allocation of the CVP plant-in-service investment is reviewed and updated annually to reflect: any additions to, or retirements from, the plant-in-service investment account; the adjustment to the historic data base to reflect another year's actual CVP water and power deliveries; and any changes in the water and power deliveries projected to be made during the remainder or the 50-year repayment period (based on the in-service date of the last major facility). A general description of the plant-in-service investment cost allocation process is detailed below.

Plant-in-service investment costs are first allocated among the authorized CVP purposes (e.g., flood control, navigation, water supply and power). Costs allocated to the water supply purpose are then suballocated among various functions, one of which is irrigation, based on each function's proportionate share of the total of the past, present and future CVP water deliveries. Similarly, CVP hydroelectric power generation and transmission costs are suballocated between commercial sales and CVP project use functions based on each function's share of the total past, present and future CVP power uses. Costs allocated to the CVP project use power function are then further suballocated among various CVP water supply functions (including irrigation) based on each function's share of the total of past, present and future CVP project use power uses.

Actual annual operating expenses are allocated at the close of each fiscal year. At year end, operation, maintenance and replacement costs incurred by the CVP during the previous 12 months are allocated among the authorized project purposes and then suballocated within the water supply and power functions. However, instead of allocating annual operating costs on the basis of past, present and future data as described above, the allocation is based on each function's share of the CVP water and power deliveries made during that year.

The plant-in-service and operation expense allocations are used to determine the water supply and project use power costs allocated to the irrigation and municipal and industrial functions and detail the costs to be recovered from these two functions through the water service rates.

RATESETTING POLICY DESCRIPTION

Legal and Policy Considerations

The policy responds to the concerns of the Office of the Inspector General. That office has reviewed the proposed policy (as well as various other ratesetting options) and has found that the Component with Individual Contractor Deficits Ratesetting Method will satisfy that office's recommendations contained in the CVP audit reports of January 1978 and September 1979 with respect to the repayment of CVP costs allocated to the irrigation function.

The formulation of the ratesetting policy is a Federal action qualified for a categorical exclusion from formal compliance with the National Environmental Policy Act of 1969, pursuant to 516 DM 6, Appendix 9.4.D(5).

The ratesetting policy anticipates that only a limited amount of power revenue assistance will be required to repay the irrigation function of the CVP by the end of the year 2030.

The Office of the Solicitor has reviewed the ratesetting policy and found it to be legally sufficient with respect to Reclamation Law, including Sections 105 and 106 of Public Law 99-546.

Policy Provisions

The provisions of the Component with Individual Contractor Deficits Ratesetting Method include the following:

- The policy will recover the United States' investment, including any operation and maintenance deficits applicable to CVP contracts, within a definite 50-year repayment period terminating in year 2030, as required by Section 105 of Public Law 99-546. This block repayment method supersedes the previous "rolling repayment" method used for computing CVP water rates.
- New 50-year repayment periods will be established for the capital cost of major rehabilitations and new facilities added to the CVP. All other construction and rehabilitation costs affecting existing facilities will fall within the initial 50-year repayment period ending in year 2030.
- Individual Contractor accounting is maintained for repayment accountability, and O&M. deficit are accumulated for and will be repaid by each Contractor under the terms of each new or amended contract, as required by Section 106 of Public Law 99-546.
- The policy honors the provisions of existing CVP water service contracts and requires the application of cost-of-service water rates for all new and renewed water service contracts and amended contracts described in section 203(a)(2) of the RRA. The policy also provides for the automatic adjustment of cost-of-service water rates on an annual basis. This is in accordance with Section 105 of Public Law 99-546.
- The rate computation procedures are based on cost-of-service with capital costs amortized over a 50-year period. Water rates are based on the "pooled and averaged costs" approach in accordance with the "operationally and financially integrated project" concept initially established by Congress and reaffirmed each time the CVP was reauthorized to include a new unit.
- There are no minimum rates (such as the \$3.50 previously used in the CVP). Cost-of-service rates are used unless the contractor's ability to pay is limited by a documented payment capacity limitation (payment capacity limitations are discussed subsequently). The cost-of-service rates reflect credits for past capital payments and miscellaneous receipts.
- The cost-of-service water rates apply to all types of water within the CVP, including Class 1 Class 2 and the storage and/or conveyance of non-project water in CVP facilities. All CVP irrigation cost-of-service and full cost pricing determinations are made in accordance with the ratesetting policy.
- The cost-of-service water rates are composed of a unique assembly of cost components frequently referred to as "cost pools." Each contractor pays a water service rate encompassing a proportionate share of the cost pools associated with the specific service required to provide that contractor with CVP water. A description of the various cost pools involved is presented subsequently.
- All of the costs of those CVP facilities in-service are included in the irrigation water rates. The cost of facilities not being fully utilized (unused capacity) are only deferred if Congress has specifically authorized the deferral of these costs.
- The ratesetting policy continues to recognize the ability to pay concept that has been used for a number of years in irrigation water contracting. Under this concept, the actual charge to the individual contractor will be the lesser of the cost-of-service, or 100 percent of the individual contractor's payment capacity. At a

minimum, however, the water rate charged will cover the operation and maintenance costs applicable to the delivery of water to the contractor. The difference between the individual contractor's cost-of-service water rates and ability to pay will be assigned to the power function for repayment.

- Where there is a question about the individual contractor's ability to pay, the contractor can prepare, or have prepared at his expense, an acceptable payment capacity analysis. The contractor will be responsible for the Bureau's costs in reviewing and approving the analysis.
- All new or amended contracts will contain provisions for redetermination and adjust of contractor's ability to pay at 5-year intervals, pursuant to Section 105 of Public Law 99-546. As a minimum, the water rate will cover the annual O&M costs applicable to water delivery if payment capacity is employed as the ratesetting criteria.
- Interest will be charged on all O&M deficits incurred on or after October 1, 1985, pursuant to Section 106 of Public Law 99-546. Transactions (either net repayment or deficits) prior to that date will not be considered in determining the interest bearing deficit amount although subsequent transactions will impact the interest bearing deficit and the applicable interest calculations.
- The rate of interest to be applied to the O&M deficits will be determined annually by the Department of the Treasury in accordance with the criteria provided in Public Law 99-546. The rate will be applied using compound interest procedures to any contractor's deficit accruing or accumulating on or after October 1, 1985.
- The costs of isolated or out-of-basin facilities are the direct repayment responsibility of the contractor (or group of contractors) who benefit from the services provided by the facilities. Accordingly, repayment for operation of isolated or out-of-basin facilities, such as those associated with the San Felipe Unit located west of the Gabilan Mountain Range near Monterey Bay, will not be shared by the other CVP contractors, but will be paid for by the out-of-basin contractors.

COMPONENT WITH INDIVIDUAL CONTRACTOR DEFICITS RATESETTING METHOD

Description of Ratesetting Method

The Component with Individual Contractor Deficits Ratesetting Method provides for a block repayment procedure with 50 years to repay all of the costs included in that block of costs. This method abandons the historic procedure of extending the repayment period of the entire CVP each time a new facility is added to the CVP (this was known as the rolling repayment or rolling 50 procedure).

While it is expected that construction will continue for some time on the CVP, the initial construction period for repayment purposes is calculated from the date the most recently completed major CVP facility (the New Melones Dam and Reservoir) was included as a part of the CVP. Therefore, the plant-in-service costs at the end of fiscal year 1980 must be repaid within 50 years, or by the end of fiscal year 2030. This period conforms with the time frame specified by Public Law 99-546. New repayment periods will be established for the capital costs of major rehabilitations and new facilities or units added to the CVP. However, all other construction costs affecting existing facilities will fall within this initial 50-year repayment period.

The Component with Individual Contractor Deficits Ratesetting Method includes individual contractor repayment or deficit balances in the determination of contractor water rates. The terms "deficit" or "operation and maintenance deficit" refer to the accumulation of annual operation and maintenance costs in excess of the annual water service payments made under a contract with a particular entity. In the aggregate, the irrigation account of the CVP has a positive balance, although that balance has been eroded during years in which annual operation and maintenance deficits have occurred. The terms "repayment" or "net repayment" refer to the accumulation of the annual water service payments in excess of that applied towards operation and maintenance expenses. The revenues in excess of operation and maintenance expenses is accumulated and applied to reduce the balance of outstanding construction costs.

Under the Component with Individual Contractor Deficits Ratesetting Method, the individual contractor irrigation water rates depend upon the extent and type of services provided by the Bureau of Reclamation (Bureau). The water rate applicable to each contractor consists of a number of cost components (or cost pools) which correspond to the water services provided by the Bureau. Each contractor's water rate consists of a composite of pooled CVP-wide rates, pooled service area rates, and individual rates to recover costs specific to certain contractors.

The cost pooling approach has been used in determining CVP irrigation water rates since the 1940's in accordance with the language of the legislation authorizing the CVP and perpetuated by subsequent legislation which provides for the continuation of the operational and financial integration of the CVP.

There are seven potential cost components that are totaled to determine a contractor's irrigation water rate under the Component with Individual Contractor Deficits Ratesetting Method. These cost components are: water marketing, storage, conveyance, conveyance pumping, San Luis Drain, direct pumping and adjustment for historic individual contractor repayment or deficit balances. The storage, conveyance, conveyance pumping, San Luis Drain and direct pumping components include rates to recover both operation and maintenance (including replacements) expenses and capital costs.

Description of each of the seven potential costs components that are totaled to determine a contractor's irrigation water rate under the Component with Individual Contractor Deficits Ratesetting Method follow:

- Water Marketing. The water marketing cost component reflects the annual operating expenses of selling (marketing) CVP water. The annual water marketing expenses are pooled CVP-wide and allocated to all paid water for the fiscal year involved.
- Paid water includes all CVP supplies to be delivered to the long-term contractors. It excludes water rights, mitigation and other such water deliveries. Long-term contractors are the CVP contractors who already have long-term water service contracts and others who are expected to continue to receive CVP water on a regular basis pursuant to annual or long-term contracts.
- Storage. The storage operation and maintenance expense component includes all of the expenses classified as storage, including a pro rata share of the annual administrative and general expense. Storage operation and maintenance expenses are pooled CVP-wide and allocated to all contractors benefitting from CVP storage by calculating a per acre-foot rate using the total paid water stored in facilities operated and maintained by the Bureau during the fiscal year involved.
- Storage capital costs are pooled CVP-wide and allocated to all contractors benefitting from CVP storage by calculating a per acre-foot rate using the historic and projected long-term contract deliveries applicable to the 50-year repayment period commencing in 1980.

- The storage component also includes the costs of the Folsom Pumping Plant, the San Luis Pumping-Generator facility and the Columbia Mowry System. These pumping facilities are included in storage as they are utilized to provide services which were eliminated by construction of the applicable storage facilities or because their operations more closely reflect a storage operation than a pumping operation.
- Conveyance. The conveyance operation and maintenance expense component includes all of the expenses classified as conveyance including a pro rata share of the annual-administrative and general expense. Conveyance operation and maintenance expenses are pooled CVP-wide and allocated to all contractors using CVP conveyance by calculating a per acre-foot rate using the total paid water to be transported through conveyance facilities operated and maintained by the Bureau for the year involved.
- Conveyance capital costs are pooled CVP-wide and allocated to all contractors benefitting from CVP conveyance service by calculating a per acre-foot rate using the historic and projected long-term contract deliveries applicable to the 50-year repayment period commencing in 1980.
- Conveyance Pumping. The conveyance pumping component includes all of the costs of the Corning, Tracy and Dos Amigos Pumping Plants and the O'Neill Pumping-Generator facility.
- The conveyance pumping operation and maintenance expenses include a pro rata share of the annual administrative and general expense and are allocated to those contractors receiving conveyance pumping services by using a CVP-wide pooled rate per kWh with the difference in allocated costs per acre-foot caused by the varying lift requirements of the pumping plants. The greater the lift requirement, the more energy required to pump each acre-foot of water and the more pumping operation and maintenance expenses allocated to the applicable individual contractor. Separate rates are calculated for each of the pumping plants involved, and the rates for each of the pumping facilities used by a Contractor are totaled to determine that Contractor's total conveyance pumping operation and maintenance rate.
- Conveyance pumping capital costs for each of the four conveyance pumping facilities are allocated to all Contractors benefitting from CVP conveyance pumping by calculating a per acre-foot rate for each facility using the historic and projected long-term contract deliveries through each facility during the 50-year repayment period commencing in 1980. The rates for each of the pumping plants used by an individual contractor are totaled to determine each Contractor's applicable conveyance pumping capital rate.
- A portion of the Tracy Pumping Plant's capital costs and operation and maintenance expenses are assigned to the Friant-Kern/Madera Canal Contractors on the basis of the historic and projected deliveries to the Delta Mendota exchange contractors applicable to the 50-year repayment period. These costs and expenses are then allocated among the Friant-Kerr Madera Canal contractors on the basis of their historic and projected Class 1 water deliveries during the 50-year repayment period.
- San Luis Drain. The San Luis Drain operation and maintenance expense component incorporates all San Luis Drain expenses including a pro rata share of the annual administrative and general expense. The San Luis Drain operation and maintenance expenses are pooled and allocated to the three contractors currently entitled to San Luis drainage service (the Panoche, San Luis and Westlands Water Districts) on the basis of each contractor's San Luis Canal deliveries for the year involved.

- San Luis Drain capital costs are allocated to the three contractors currently entitled to San Luis drainage service on the ratio of each contractor's historic and projected long-term San Luis Canal deliveries applicable to the 50-year repayment period to the total of all such deliveries.
- Direct Pumping. The direct pumping component includes all of the costs applicable to the various canalside relift pumping plants and the other CVP pumping plants not operated by the Bureau including those serving the Bella Vista WD (Wintu pumping plant), Contra Costa WD (Contra Costa, Ignacio, and Clayton pumping plants), Westlands WD (Pleasant Valley pumping plant) and the Cross Valley Contractors (State Delta pumping plant - project use energy costs only).
- All of the facilities included in the direct pumping component are operated and maintained at no cost to the Bureau with the exception of the cost of the project use energy provided. The project use energy costs are isolated and charged directly to the individual contractors receiving benefit of the pumping services.
- The CVP capital costs applicable to the direct pumping facilities is also charged directly to the individual contractor receiving benefit of the pumping service. Per acre-foot rates are determined for these costs by distributing the capital costs to the historic and projected long-term contract deliveries applicable to the 50-year repayment period.
- Adjustment for Historic Individual Contractor Repayment or Deficit Balances. This component consists of the net result of the comparison of each Contractor's annual water payments with their allocated share of the operation and maintenance expenses for that year. This component reflects the calculation of individual Contractor balances starting at the time each long-term contractor first started taking CVP water. The balances in this component indicate the result of individual Contractor accounting.

Prior to the enactment of Public Law 99-546, interest was not charged on operation and maintenance deficits. Accumulated annual payments were netted against accumulated annual operation and maintenance charges in order to establish each Contractor's net repayment or deficit financial position through September 30, 1985. If the contractor's total payments exceeded the allocated operation and maintenance expenses through September 30, 1985, the net difference was considered repayment and was applied as a credit in determining the Contractor's water service rate. This credit is still applied in subsequent years to the extent that any deficits incurred after September 30, 1985 have been repaid. If the Contractor's allocated share of the operation and maintenance expenses exceeded the payments through September 30, 1985, the Contractor had an operation and maintenance deficit which increased the Contractor's repayment obligation and computed water rate.

Passage of Public Law 99-546 required the calculation of interest on all operation and maintenance deficits accruing on or after October 1, 1985. This necessitated the development and maintenance of individual contractor ledgers showing the operation and maintenance deficit or repayment balance accrued as of September 30, 1985, and the annual interest bearing operation and maintenance deficits (including interest) incurred thereafter. An annual accounting of financial operations will be made by contractor showing the result of that year's activities. The annual accounting of operation and maintenance deficits by Contractor will include interest accruing on a compound basis at rates determined in accordance with the interest rate criteria contained in Public Law 99-546. Annual interest calculations are simplified by using a composite interest rate method which reflects the weighted average of the various annual Contractor deficits and applicable interest rates.

The Region, has decided to accept, and encourage, voluntary payments from individual contractors to avoid operation and maintenance deficits and has developed implementing procedures for accepting, handling and applying voluntary payments. These procedures allow the contractors to avoid incurring interest on operation and

maintenance deficits so long as voluntary payments are made in accordance with the Region's established voluntary payment procedures.

The Component with Individual Contractor Deficits Ratesetting Method applies all annual water revenues by individual Contractor in the following priority:

- Current operation and maintenance expenses
- Interest expenses
- Interest-bearing operation and maintenance deficits
- Non-interest bearing operation and maintenance deficits
- Capital repayment

WATER RATE CALCULATIONS

Using the methods and procedures previously described, water rates for each component and CVP long-term contractor are calculated annually. Pending final approval, the Component with Individual Contractor Deficits Ratesetting Method has been used on an interim basis to calculate individual contractor CVP water rates for the 1984, 1985, 1986, 1987 and 1988 water years.

Upon final approval, the Component with Individual Contractor Deficits Ratesetting Method will be used to calculate all CVP irrigation cost-of-service and RRA full-cost water rates. These rate determinations include provisions for annual operation and maintenance expenses, amortized rates for the applicable construction costs and rates to recover any accumulated O&M deficits (including interest pursuant to Section 106 of Public Law 99-546) and adjustments for individual contractor repayments to date. The full-cost rate also includes an interest charge on unpaid capital costs in accordance with the RRA.

10-Year Rolling Average of CVP Restoration Fund (ALL YEARS)
Receipts for Irrigation, M&I, and Commercial Power
Central Valley Project

Fiscal Year	Irrigation		M&I Water		Commercial Power		Non-Fed Contributions	Total Receipts
	Receipts	10-Year Rolling Average	Receipts	10-Year Rolling Average	Receipts	10-Year Rolling Average	Receipts	
1993	8,488,521		282,532		0		0	8,771,053
1994	12,445,670		3,062,475		5,472,398		0	20,980,543
1995	19,653,199		3,326,054		10,582,808		0	33,562,061
1996	33,963,427		4,532,763		8,328,838		0	46,825,028
1997	28,285,292		6,441,240		1,945,430		0	36,671,962
1998	16,735,441		3,050,510		4,845,695		0	24,631,645
1999	31,450,074		6,339,033		10,911,746		0	48,700,853
2000	28,518,202		6,487,597		11,989,179		0	46,994,978
2001	22,658,904		5,560,639		6,891,001		1,000,000	36,110,545
2002	24,668,330	63.906%	6,525,177	12.847%	20,556,612	22.965%	0	51,750,118
2003	27,019,792	62.269%	5,034,994	12.779%	15,809,615	24.698%	0	47,864,401
2004	27,196,590	63.236%	6,903,465	13.175%	4,181,758	23.346%	0	38,281,814
2005	32,737,905	62.754%	5,873,948	13.034%	18,963,247	23.983%	0	57,575,099
2006	33,853,402	61.590%	7,529,892	13.473%	13,488,271	24.711%	0	54,871,565
2007	28,062,780	61.070%	6,652,464	13.417%	5,366,834	25.288%	0	40,082,078
2008	17,478,762	57.590%	8,436,749	13.752%	27,011,088	28.447%	0	52,926,599
2009	18,692,314	53.694%	6,188,421	13.418%	34,536,089	32.682%	0	59,416,823
2010	31,260,772	54.150%	6,026,431	13.296%	10,681,594	32.348%	0	47,968,797
2011	30,438,715	53.224%	7,797,695	13.133%	20,960,452	33.643%	0	59,196,862
2012	26,821,459	52.843%	11,816,747	13.958%	20,862,633	33.198%	0	59,500,839
2013	17,859,043	51.490%	8,413,096	14.730%	17,404,274	33.779%	0	43,676,413
2014	6,420,484	46.717%	5,534,067	14.242%	34,320,653	39.041%	0	46,275,204
2015	4,172,943	42.004%	3,528,415	14.047%	40,389,697	43.949%	0	48,091,055
2016	12,688,521	37.454%	6,907,972	13.773%	40,954,898	48.772%	0	60,551,392
TOTAL	541,570,543		142,252,374		386,454,810		1,000,000.00	1,071,277,727

Capital Costs:	Irrigation		M&I Water		Commercial Power		
FY 1993 - 2002	14,486,575,554	60.031%	4,610,396,615	19.105%	5,034,866,339	20.864%	24,131,838,508
FY 1994 - 2003	14,632,880,488	60.126%	4,552,428,315	18.706%	5,151,536,987	21.168%	24,336,845,790
FY 1995 - 2004	14,746,727,751	60.275%	4,473,508,093	18.285%	5,245,527,205	21.440%	24,465,763,049
FY 1996 - 2005	14,849,152,166	60.419%	4,389,655,764	17.861%	5,338,023,815	21.720%	24,576,831,745
FY 1997 - 2006	14,951,521,682	60.624%	4,304,226,069	17.452%	5,407,051,351	21.924%	24,662,799,102
FY 1998 - 2007	15,030,984,263	60.843%	4,216,611,404	17.068%	5,457,134,543	22.089%	24,704,730,210
FY 1999 - 2008	15,092,295,014	60.797%	4,174,222,599	16.815%	5,557,613,187	22.388%	24,824,130,800
FY 2000 - 2009	15,134,750,359	60.715%	4,138,874,526	16.604%	5,653,754,512	22.681%	24,927,379,397
FY 2001 - 2010	15,141,844,018	60.596%	4,084,990,814	16.348%	5,761,288,940	23.056%	24,988,123,772
FY 2002 - 2011	15,158,866,330	60.277%	4,039,444,885	16.062%	5,950,484,470	23.661%	25,148,795,685
FY 2003 - 2012	15,189,349,951	60.043%	3,974,837,099	15.712%	6,133,123,655	24.244%	25,297,310,705
FY 2004 - 2013	15,325,460,684	59.676%	3,988,167,708	15.530%	6,367,409,119	24.794%	25,681,037,511
FY 2005 - 2014	15,476,328,114	59.306%	3,990,600,848	15.292%	6,628,834,262	25.402%	26,095,763,224
FY 2006 - 2015	15,632,829,707	58.951%	3,989,156,865	15.043%	6,896,223,528	26.006%	26,518,210,100

**JOINT TRIAL
EXHIBIT 2
No. 14-817C**