



**San Diego County
Water Authority**

San Diego County Water Authority
Cost of Service Study

CY 2023 RATES AND CHARGES

FINAL | May 2022



Contents

Section 1 - Executive Summary	1
1.1 Rates and Charges	1
1.2 Water Authority Rate-Setting Process	3
1.3 Carollo Independent Review Process	3
1.4 Summary of Findings	4
Section 2 - Introduction	5
2.1 Background on Existing Rates and Charges	5
2.2 Criteria for Findings and Recommendations	6
2.3 Key Governing Board Policies	6
2.3.1 Infrastructure Access Charge	7
2.3.2 Ordinance No. 2002-03	7
2.3.3 Financial Management Amendment (2006)	7
2.3.4 Fiscal Sustainability Task Force (2015 & 2019)	7
2.3.5 Financial Strategy Work Group	8
2.4 Overview of Legal Cost of Service Requirements	8
2.4.1 Proposition 26	9
2.4.2 Government Code Section §50076	9
2.4.3 Government Code Section §54999.7	9
2.4.4 County Water Authority Act Section 5 (13)	9
2.5 Overview of Generally Accepted Rate-Setting Standards	10
2.6 CY 2023 Rate Drivers and Mitigation Strategies	10
Section 3 - Revenue Requirements	12
3.1 Operations and Maintenance Costs	13
3.2 Miscellaneous Cost Recovery	13
3.3 Capital Costs	14
3.3.1 Annual Debt Service	14
3.3.2 Non-Debt Capital Expenditures	15
3.3.3 Depreciation and System Replacement	15
3.4 Offsetting Revenues to Reduce Revenue Requirements	15
3.5 Infrastructure Access Charge	16

3.6 Revenue Sufficiency	18
3.7 Financial Policies	19
3.7.1 Debt Service Coverage Ratio	19
3.7.2 Rate Stabilization Fund (RSF)	19
Section 4 - Allocation of Revenue Requirements to Functional Categories	21
4.1 Allocation Categories	21
4.1.1 Customer Service	21
4.1.2 Storage	21
4.1.3 Supply	22
4.1.4 Transportation	22
4.1.5 Treatment	22
4.1.6 General and Administrative	22
4.2 Allocation Summary	22
4.2.1 Allocation of Operating Costs	23
4.2.2 Allocation of Debt Service	23
4.2.3 Allocation of Offsetting Revenues	24
4.2.4 Additional Expenses	25
4.2.5 Coverage + Reserve Driven Requirements	26
4.2.6 Summary of Allocation	26
Section 5 - Water Rates and Charges	27
5.1 Commodity Based Fixed Charges	27
5.1.1 Customer Service Charge	27
5.1.2 Storage	28
5.1.3 Supply Reliability Charge	29
5.2 Commodity Based Variable Rates	30
5.2.1 Supply (Melded M&I Supply Rate)	30
5.2.2 Treatment (Melded M&I Treatment Rate)	31
5.2.3 Transportation	33
5.3 Permanent Special Agricultural Water Rate Program	34
5.4 Capacity Charge Increase	34
Section 6 - Findings	37

Appendices

Appendix A	Infrastructure Access Charge Resolution
Appendix B	Ordinance No. 2002-03
Appendix C	Financial Policy Amendment
Appendix D	General Resolution 89-91 (with Amendments)
Appendix E	A&N Technical Services, Inc. - Supply RELIABILITY charge memo

Tables

Table 1	Summary of Proposed CY 2022 Water Rates and Charges	4
Table 2	Revenue Requirements Summary (in \$ millions)	12
Table 3	Determination of Operating Cost	13
Table 4	Offsetting Revenues (in \$ millions)	16
Table 5	Infrastructure Access Charge Calculation (in \$ millions)	18
Table 6	Allocation of CY 2023 Operating Budget (in \$ millions)	23
Table 7	Debt Service Allocation Summary (in \$ millions)	23
Table 8	CY 2023 Allocation Factors for Offsetting Revenues	24
Table 9	CY 2023 Offsetting Revenues (in \$ millions)	25
Table 10	CY 2023 Additional Expenses (in \$ millions)	25
Table 11	Remaining Coverage and Reserve Allocation Summary (in \$ millions)	26
Table 12	Revenue Requirements Summary (in \$ millions)	26
Table 13	CY 2023 Customer Service Revenue Requirement (in \$ millions)	28
Table 14	CY 2023 Storage Revenue Requirement (in \$ millions)	28
Table 15	Proposed CY 2023 Supply Reliability Charge	29
Table 16	CY 2023 Melded Supply Revenue Requirement (in \$ millions)	30
Table 17	Proposed CY 2023 M&I Melded Supply Rate	31
Table 18	CY 2023 Melded Treatment Revenue Requirement (in \$ millions)	32
Table 19	Proposed CY 2023 Melded Treatment Rate	32
Table 20	Proposed CY 2023 Transportation Rate (in \$ millions)	33
Table 21	Proposed System and Treatment Capacity Charge Increases	35

Section 1

EXECUTIVE SUMMARY

The San Diego County Water Authority (Water Authority or SDCWA) is a public agency serving the San Diego region as a wholesale supplier of water. The Water Authority's mission is to provide a safe and reliable supply of water to its 24 member agencies. The Water Authority purchases water from the Metropolitan Water District of Southern California (MWD) and obtains and produces additional supplies pursuant to agreements commonly referred to as the Quantification Settlement Agreement (QSA). The Water Authority also has a water purchase agreement with Poseidon Resources, LLC, for desalinated water produced at Poseidon's Carlsbad Desalination Plant.

In summer 2019, the Water Authority issued a request for Cost of Service proposals and engaged Carollo Engineers, Inc. (Carollo) to perform a Cost of Service Study to review, calculate, and validate the proposed Calendar Year (CY) 2021 water rates and charges, and subsequently the CY 2022 and CY 2023 water rates and charges. In meeting this scope, Carollo reviewed and updated the existing CY 2022 rate analysis and reviewed the Water Authority's existing cost of service methodology and financial model for compliance with American Water Works Association (AWWA) cost of service standards, industry best practices, Board policies, as described in Report Section 2.3, and California legal requirements, as described in Report Section 2.4. Together, these establish the cost of service standard that is referenced throughout this report.

Based on Carollo's independent review, Carollo has determined that the amount of money reasonably anticipated to be generated through the Water Authority's proposed CY 2023 water rates and charges, when combined with other Water Authority revenues, is reasonable to recover the costs of the Water Authority's activities. This is consistent with the findings of Carollo's previous Cost of Service Reports (2014, 2016, 2018, 2020, 2021, and 2022). It is Carollo's professional opinion that the Water Authority's allocation of rates and charges to each of the member agencies bears a fair, reasonable, and logical relationship to each member agency's burdens on or benefits from Water Authority services. This allocation complies with legal requirements, cost of service standards, industry best practice, and Board policy requirements, as discussed in this report. By the request of the Board, the Water Authority hired a third-party consultant, HDR, to provide an additional review of the proposed CY 2023 water rates and charges detailed in this report. Following the completion of the review, any necessary revisions will be addressed in the Final Report (expected in June).

1.1 Rates and Charges

The Water Authority imposes several different types of water rates and charges that are collected from the member agencies. These include volumetric commodity rates that are collected monthly per unit of metered water delivered to each agency (supply, transportation, and treatment rates) and service charges that are apportioned among the member agencies according to their respective three- or five-year rolling average of water purchases from the Water Authority (three years for customer service and storage and five years for supply reliability charges). Volumetric water rates are set as a unit price per acre-foot for actual water delivered.

Customer service and storage charges recover costs for facilities and services that are provided for all customers and are apportioned in a manner that is designed to account for moderate annual fluctuations in water demands and demand patterns commonly resulting from weather conditions and conservation requirements.¹

In addition to these water rates and charges, the Water Authority recovers at least 25 percent of fixed annual expenditures through a combination of ad valorem property taxes and water availability standby charges imposed on properties within the Water Authority's service area, and an Infrastructure Access Charge (IAC). The IAC is an annual service charge imposed on member agencies and apportioned based on their respective total connected meter capacity, a measure of an agency's potential to take water from the Water Authority.

The Water Authority also imposes one-time System Capacity and Treatment Capacity Charges on users that obtain new or upsized water meters. These charges fairly and reasonably recover the costs associated with providing system capacity for new users. A description of each water rate and charge category is as follows:

- **Customer Service:** The Customer Service charge is a commodity-based fixed charge set to recover costs that are necessary to support the functions of the Water Authority, develop policies, and implement system-wide programs.
- **Storage:** The Storage charge is a commodity-based fixed charge set to recover costs associated with the Emergency Storage Program (ESP) and Carryover Storage Program (CSP). The ESP and CSP are a system of reservoirs, interconnected pipelines, and pumping stations designed to make water available to the San Diego region in the event of an interruption in imported water deliveries and, in the case of the CSP, provide operational flexibility and drought protection.
- **Supply Reliability Charge:** The Supply Reliability Charge is a commodity-based fixed charge established to recover a portion of the Carlsbad Desalination Plant and the IID transfer water costs. The charge is set equal to the difference between the supply cost of reliable local sources and a like amount of water purchased at the MWD Tier 1 rate multiplied by 25 percent and apportioned according to a five-year rolling average of water purchases.
- **Supply:** The Supply rate is a volumetric charge that recovers the cost of water supply incurred by the Water Authority including the full cost of purchase of water from MWD at the delivery point, payments to the IID for transfer of conserved water, costs associated with obtaining conserved water from the Coachella and All-American Canal Lining Projects, costs of MWD wheeling for non-MWD water supplies (e.g. QSA supply exchange costs), other costs associated with acquisition of supplies and implementation of the QSA, and supply and acquisition costs related to the Poseidon water purchase agreement associated with the Carlsbad Desalination Project.
- **Transportation:** The Transportation rate is a volumetric charge set to recover capital, operating, and maintenance costs of the Water Authority's water delivery facilities including all facilities used to physically transport the water to member agency meters.²

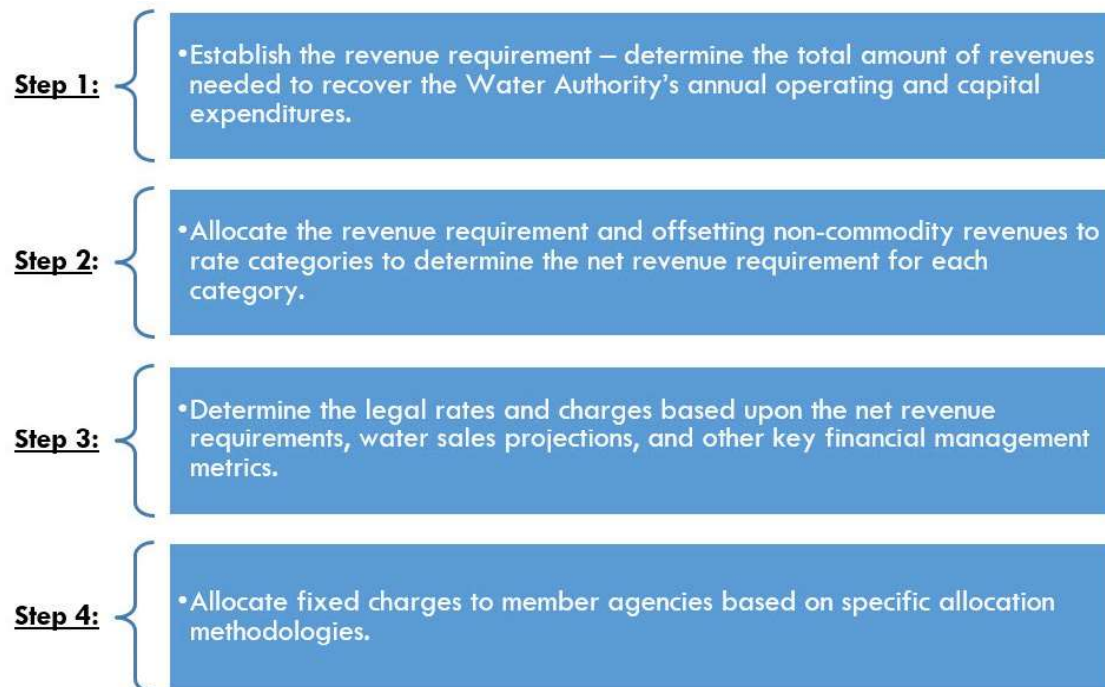
¹ Customer Service Charge allocation excludes member agency wheeled water.

² Costs associated with facilities covered by the East County Facility Agreements are not included in Transportation but relate to treatment services in connection with the Helix Water District's Levy Water Treatment Plant and are recovered through the Treatment rate.

- **Treatment:** The Treatment rate is a volumetric charge designed to recover the cost of treating water. The Melded Municipal and Industrial (M&I) Treatment Rate includes the costs of purchasing treated water from MWD, the operating and capital costs associated with the Water Authority's agreement with Helix Water District's Levy Water Treatment Plant, operating costs associated with the Olivenhain Treatment Plant, and the operating and capital costs associated with the Twin Oaks Valley Treatment Plant.

1.2 Water Authority Rate-Setting Process

The Water Authority develops proposed rates and charges on an annual basis, which it presents to the Board of Directors for adoption. Each year, the Water Authority undertakes the following cost of service process to determine water rates and charges:



The Water Authority's methodology and application remain consistent with the AWWA cost of service guidelines, as well as existing Board policies and legal requirements stated herein. Rates are designed to recover all direct, indirect, and other costs of providing water and water services that are not recovered through other revenues such as taxes, assessments, or other charges. Throughout the process, the Water Authority identifies major cost drivers and allocates them to specific rate and charge categories.

1.3 Carollo Independent Review Process

Carollo independently performed Steps 1 through 4 above when evaluating the proposed CY 2023 rates and charges. The purpose of this cost of service process is to: (1) identify which costs are recovered through water rates and charges; (2) allocate the Water Authority costs to functional rate categories; (3) update the rates and use of offsetting revenues to fairly and reasonably recover system expenditures from member agencies; and (4) appropriately calculate non-commodity revenues.

In order to determine the costs to be recovered by water rates and charges, Carollo relied upon cost projections, reserve requirements, and revenue policies provided by the Water Authority. Source data for this review included the Fiscal Year (FY) 2022, 2023, and 2024 cost projections provided by the Water Authority's Finance Department, the 2021 Annual Comprehensive Financial Report (ACFR), debt service schedules and bond official statements, Board policy documents, and the Water Authority's rate model. Additionally, Carollo worked with the Water Authority's Finance staff to review the cost of service methodology and process.

In Carollo's previous Cost of Service reviews, Carollo conducted interviews with select divisions within the Water Authority to discuss the functional allocation approach and metrics for assigning operating costs to rate categories. While the overall percentages will change from year-to-year, the Water Authority's allocation approach remains consistent and continues to be valid. As part of the FY 2022 and FY 2023 budget development process, Water Authority staff updated these internal allocations to reflect any forecasted change in service or operations.

The details of this analysis are presented within the body of this report.

1.4 Summary of Findings

The Water Authority has developed a clear and defensible process to allocate system expenditures to rate categories and fairly and reasonably recover those expenditures from member agencies. The analysis performed by Carollo confirms that the Water Authority's cost of service approach and the proposed CY 2023 rates and charges as determined in this report comply with cost of service principles, industry best practices, and applicable legal requirements.

Based on Carollo's independent review and rate development, the proposed CY 2023 cost of service water rates and charges are illustrated in Table 1 below.

Table 1 Summary of Proposed CY 2022 Water Rates and Charges

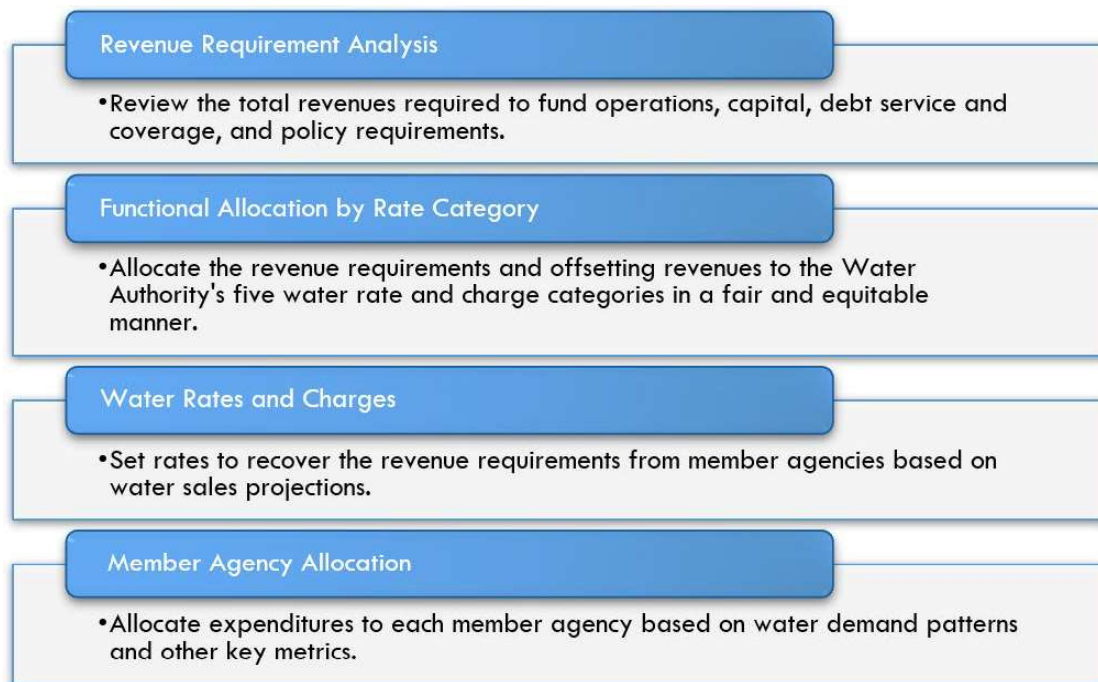
Water Rates and Charges	
Customer Service Charge	\$26.00M
Storage Charge	\$60.00M
Supply Reliability Charge	\$40.85M
Melded M&I Supply Rate	\$1,085/AF
Melded M&I Treatment Rate	\$350/AF
Transportation Rate	\$173/AF

Section 2

INTRODUCTION

Carollo conducted an independent review of the Water Authority's CY 2023 water rates and charges. The purpose of this Cost of Service Study is to calculate and affirm the proposed CY 2023 water rates and charges consistent with cost of service principles and the AWWA M1 guidelines, Board policy, and legal requirements. The results of this study are outlined within the body of this report.

The cost of service and rate development review process consists of the following steps:



Based on this study review and in Carollo's professional opinion, the Water Authority's CY 2023 rates and charges are consistent with AWWA cost of service principles, Board policies, and legal requirements, and appropriately recover costs from member agencies as described herein.

2.1 Background on Existing Rates and Charges

The Water Authority sets water rates and charges, which, when combined with other revenues, are sufficient to pay operating expenses, provide for maintenance and repair of facilities, provide for payment of principal and interest on debt, and provide reasonable reserves consistent with bond covenants and sound fiscal management. As a public agency, the Water Authority sets rates and collects other revenues to meet all reasonably anticipated costs of its operations as required by law.

On June 27, 2002, the Water Authority adopted Ordinance No. 2002-03 establishing the current revenue structure, which consists of ad valorem property taxes, including payments of member agencies in-lieu of taxes; a Water Standby Availability Charge levied pursuant to §5.2 of the County Water Authority Act; an Infrastructure Access Charge imposed on member agencies as a condition of maintaining connections to Water Authority facilities; a capacity charge levied pursuant to §5.9 of the County Water Authority Act; and rates and charges for delivery and supply of water, use of facilities, and provision of other services. This revenue structure is reflected in §5.00.050 of the Water Authority Administrative Code.

The June 2002 Board action unbundled the then uniform commodity rate, creating separate commodity rates and charges for customer service, storage, supply, and transportation. This action was the result of a multi-year work effort involving the member agencies, Water Authority staff, and consultants. The unbundled rates and charges took effect January 1, 2003. With the development of the Twin Oaks Water Treatment Plant, treatment was later added as the final functional rate category in 2006. In March 2015, the Board added a Supply Reliability Charge, as described in this report. Most recently in June 2021, the Board adopted a Permanent Special Agricultural Water Rate (PSAWR), offering participants the choice of a lower cost of water and corresponding lower level of water supply reliability.

2.2 Criteria for Findings and Recommendations

To confirm the appropriateness and general application of AWWA cost of service principles, Board policies, and legal requirements, Carollo applied the following framework throughout the review:

- Does the cost allocation approach result in a fair, reasonable, and quantifiable connection between the cost of services made available and the benefits received by each ratepayer?
- Do the rate structures effectively and appropriately recover the allocated costs from each ratepayer?
- Is the allocation approach and methodology consistent with standards established in the AWWA M1 manual, meet Board policies, and adhere to applicable legal requirements?
- Have the policies and standards been applied consistently by the Water Authority? Is it likely that the allocation approach will be appropriate for use by the Water Authority in the future?
- Are there issues or processes that may be appropriate to highlight for possible financial review?

The review presented in this report applies these criteria to the existing revenue requirement and water rate and charge methodology utilized by the Water Authority.

2.3 Key Governing Board Policies

In setting its rates and charges, the Water Authority must first meet cost of service requirements, in which rates and charges may not exceed the reasonable cost of providing the services, as well as clearly demonstrate the nexus between the costs allocated and services provided to customers. As this requirement is achieved, the rates must also adhere to adopted Board policies, which serve as the basis for the determination of the total revenue requirement as well as the proportion of the revenue requirement to be recovered by fixed charges and variable commodity rates. Several key Board policies are highlighted below and can be found in the appendix of this report.

2.3.1 Infrastructure Access Charge

In 1998, under Resolution No. 98-26, the Board established the IAC. The intent of the IAC is to provide the Water Authority with a more appropriate balance of fixed and commodity revenues. Prior to the implementation of the IAC, the Water Authority had a greater dependency on variable revenues that fluctuated with demand and did not adequately align with the existing cost structure. As such, the IAC was designed to be independent of commodity sales and the new business development cycle and generate a minimum 25 percent ratio of fixed revenues to fixed expenditures. Resolution No. 98-26 is included as Appendix A.

2.3.2 Ordinance No. 2002-03

Following development and implementation of the IAC, the Water Authority reviewed and redesigned the existing rate structure in 2002. Ordinance No. 2002-03 transitioned the rate structure from a historical unit price ("postage stamp") water rate to assigning the revenue requirements to functional categories. The rate structure was split into fixed and variable components. The fixed water rate categories are comprised of the Storage and Customer Service charges. The variable water rate categories encompass the Transportation, Melded M&I Treatment, and Melded M&I Supply rates. This transition further aligned the Authority's expenditure and cost recovery nexus. The ordinance in its entirety is included as Appendix B.

2.3.3 Financial Management Amendment (2006)

In 2006, following the recommendations of the Rate Model Workgroup (RMWG) and Administrative and Finance Committee, the Board amended the Water Authority's financial policies regarding the Rate Stabilization Fund (RSF) and Debt Service Coverage Ratio (DSCR). As part of the amendment, the Board established a target funding level for the RSF that better protects the Water Authority against the financial impact of 2.5 years of wet weather (3.5 years max) where water sales are moderated. In addition, it established a target DSCR of 1.50x, which is above the minimum legal bond covenant of 1.20x.

The overall benefits of the amendment include reduced rate volatility, increased protection against wet weather, a transparent and flexible RSF framework, and increased cash funding of the Capital Improvement Program (CIP). The RSF also provides a mechanism for rate smoothing and source of emergency funding, as necessary. Furthermore, it strengthened key financial ratios—higher debt service coverage ratio, decreased debt ratio, and increased cash days—to support the maintenance of the Water Authority's AA+ credit ratings and access to lower borrowing rates. The Board Action, implementing the RMWG Financial Policy Proposal, is included as Appendix C.

Based on a recommendation stemming from the CY 2019 Rate Study, the Water Authority Board approved Ordinance No. 2018-03 to update the RSF methodology to better align with current water demand conditions and continued improvements in water use efficiency.

2.3.4 Fiscal Sustainability Task Force (2015 & 2019)

In 2014, the Board created the Fiscal Sustainability Task Force (FSTF). Over an 18-month collaborative process, the FSTF identified issues related to the long-term fiscal sustainability of the Water Authority. Central to this effort was a detailed review of the Water Authority's revenue structure and evaluating potential enhancements that would further strengthen the Water Authority's future fiscal health.

The resulting and approved recommendations included: (1) the creation of the Supply Reliability Charge, as defined in the A&N Technical Services memorandum to the Water Authority's rate and charge structure; (2) the allocation of non-commodity revenues to all rate and charge categories including treatment, as recommended in the 2014 Cost of Service Report; (3) the permanent application of the debt and equity payments for the Carlsbad Desalination Plant to the Supply Rate; and (4) the extension of the Transitional Special Agricultural Water Rate Program through December 31, 2020.

In June 2019, the Board adopted the General Manager's Recommended Budget for Fiscal Years 2020/2021. The Board action was modified and adopted to include the reconstitution of the FSTF. In July 2019, the FSTF was established and comprised of a mix of Member Agency Managers and Water Authority Board Members.

Between August 2019 and February 2020, the FSTF met on ten occasions. Over this period, the task force discussed a myriad of topics focusing on Transitional Special Agricultural Water Rate (TSAWR), the IAC policy, the fixed/variable charge mix, roll-off and detachment impacts, and MWD rates. To better frame these discussions, subject matter experts presented key data and responded to FSTF input and questions.

From this discussion and analysis, the task force provided two recommendations for Board consideration including the 2nd year of the forecasted IAC ramp up be included in the CY 2021 Rates and Charges and that the TSAWR be made permanent. In November 2019, the Board directed staff to (1) create a Permanent Special Agricultural Water Rate (PSAWR) Program and (2) that the 2nd year ramp up of IAC be incorporated in the CY 2021 Rate and Charges.

2.3.5 Financial Strategy Work Group

In late 2020, the FSTF was dissolved and replaced by the Financial Strategy Work Group (FSWG). While the name changed, the FSWG is a clear successor to the FSTF. The FSWG has provided input into the FY 2022 and FY 2023 Budget, CY 2023 Rates and Charges, and 10-year Capital Improvement Plan. The FSWG continued to work with staff as the 2021 Long-Range Financing Plan (LRFP) was developed³.

The LRFP supports the long-term fiscal sustainability of the Water Authority by identifying financial policies, outlining CIP funding strategies, outlining long range financial planning assumptions, and providing a financial outlook through FY 2031. It was developed with input from the Financial Strategy Work Group (FSWG), member agency managers, member agency finance officers and staff, in coordination with the Water Authority's staff. The collaborative process included several development and review meetings to allow opportunities for member agency review and input at the staff and Board level.

2.4 Overview of Legal Cost of Service Requirements

The Water Authority's rates must adhere to California constitutional and statutory requirements. California law requires agencies imposing water rates and charges to demonstrate a nexus between the cost of providing services and the service or benefits received.

Beyond the cost of service requirements imposed by the constitution and general statutory law, the Water Authority must also adhere to the County Water Authority Act. Section 7 (j) of the County Water Authority Act states that the "board of directors, so far as practicable, shall fix such rate or rates for water as will result in revenue which will pay the operating expenses of the authority, provide for repairs and maintenance, and provide for the payment of interest and principal of the bonded debt." The revenue requirement (e.g., "costs") described in this report is grounded on this statutory requirement, the Water Authority's General Resolution, and sound fiscal management.

³ The adopted 2021 Long-Range Financing Plan is published and publicly available on the SDCWA website: <https://www.sdcwa.org/wp-content/uploads/2021/10/LRFP2021Adopted.pdf>

These costs are then apportioned to the member agencies through the allocation of fixed charges and variable rates described in the adopted rate structure according to service function. The apportionment is accomplished in accordance with standards established by California law, including the provisions summarized below, which, while paraphrased, essentially describe the same cost of service standard.

2.4.1 Proposition 26

This proposition was adopted by the voters in November 2010. Among other things, it amended California Constitution article XIII C, Section 1 to add a definition of “tax.” As defined by Proposition 26, a tax means “any levy, charge, or exaction of any kind imposed by a local government” with certain enumerated exceptions.

There are two applicable exceptions:

- The exception for a “charge imposed for a specific benefit conferred or a privilege granted directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of conferring the benefit or granting the privilege,” and
- The exception for a “charge imposed for a specific government service or product provided directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of providing the service or product.”

Proposition 26 establishes that: “The local government bears the burden of proving by a preponderance of evidence that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor’s burdens on, or benefits received from, the governmental activity.”

2.4.2 Government Code Section §50076

This section of the Government Code was adopted in 1979, following the adoption of Proposition 13 in 1978. It provides that special taxes “shall not include any fee which does not exceed the reasonable cost of providing the service or regulatory activity for which the fee is charged.”

2.4.3 Government Code Section §54999.7

This is another section that grounds public agency rate-setting on cost of service principles and states that fees “for public utility service, other than electricity or gas, shall not exceed the reasonable cost of providing the utility service.” It also provides that the fees will be “established in consideration of service characteristics, demand patterns, and other relevant factors.”

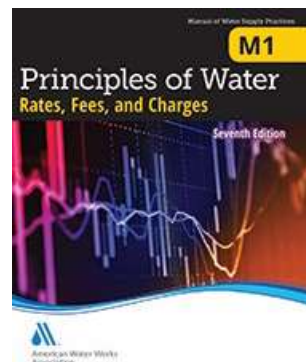
2.4.4 County Water Authority Act Section 5 (13)

This provision of the County Water Authority Act provides that in setting rates, “the board may establish reasonable classifications among different classes and conditions of service, but rates shall be the same for similar classes and conditions of service.”

The Water Authority’s General Counsel has advised Carollo that this provision requires that rates be non-discriminatory and that differences in rates or rate apportionment be based on service differences, such as with the non-allocation of storage charge to agricultural customers. The General Counsel has also advised that this section may be construed consistently with the Constitutional and statutory cost of service requirements described above.

2.5 Overview of Generally Accepted Rate-Setting Standards

In addition to formal Board policies and objectives, the AWWA established a general set of principles used to guide the development of water rates. These principles were developed and published in the AWWA *M1 Manual – Principles of Water Rates, Fees, and Charges* (M1 Manual). These guiding principles outline a consistent, universal approach and minimum standard that is employed by most agencies when setting rates and charges. The M1 Manual denotes that there is no prescribed single approach for establishing cost-based rates. Rather, agencies must exercise judgment to align rates and charges with local conditions and requirements, as well as applicable state law.



These guidelines, along with applicable California law, the Board's policies, and industry best practices have been utilized within the Water Authority's rate-setting framework to help develop water rates and charges that are cost based and fairly, reasonably, and lawfully quantified and allocated to comply with the legal requirements outlined in Report Section 2.4. Throughout this report, compliance with industry standards shall refer to the AWWA M1 Manual and industry best practices.

2.6 CY 2023 Rate Drivers and Mitigation Strategies

Various supply and financial components comprise the need to increase rate revenues under the proposed CY 2023 rates, and the Water Authority has instituted numerous levers in order to mitigate substantial increases. Continued increases from MWD, impacts of historical rate smoothing, water sales below historical levels, and notably high inflation are some of the key drivers behind the proposed CY 2023 rates.

Shorter-term rate drivers are specifically associated with costs outside the direct control of the Water Authority, which largely control the melded supply and treatment rates. A 21 percent increase in energy costs from SDG&E are significantly pressuring the unit-cost (supply cost) for desalination. Two additional energy rate increases are anticipated in CY 2022. For treatment, in addition to general inflationary pressures and rate increase, operational changes from the City of San Diego have resulted in a lower demand of treatment deliveries.

As the Water Authority desires to maintain "smooth and predictable rates," short-term rate mitigation is balanced aside foreseen long-term rate pressures. These come from a 6 percent or greater forecasted compound annual growth rate (CAGR) for MWD rates and charges, catching up of historical rate smoothing, modifications to the desalination permanent intake, and changes to member agency demand patterns (e.g., treatment shifts). As these pressures are largely external to the Water Authority, they are unable to fully mitigate through cost controls.

The Water Authority's long-term financial management, including budgeting, rate setting, and rate guidance continue to aim for long-term affordability for member agencies and ratepayers. During Fiscal Years 2020 and 2021, the Water Authority's debt management strategy saved ratepayers across the region approximately \$130 million due to the execution of five tax-exempt and taxable refundings of outstanding debt. During this same period, the Water Authority implemented mid-term budget savings, to save approximately \$44.5 million in Fiscal Year 2021. This was done through coordinated efforts of deferring capital projects, rescheduling equipment replacement, and maintaining vacant staff positions. Furthermore, recent Water Authority court victories generated \$100 million in refunds for member agencies.

For Fiscal Years 2022 and 2023 the Water Authority continued these efforts with the development of the two-year budget. The Fiscal Years 2022 and 2023 Adopted Budget included the elimination of 7 full-time equivalents, along with a reduction in outside services and minimized travel. In addition, equipment and capital projects were evaluated for potential deferrals to minimize the impact of day-to-day operations. With the consideration for savings, the budget for Fiscal Years 2022 and 2023 is an overall 0% change from the prior two-year period. As the Water Authority is underway with its mid-cycle review, they continue to evaluate for savings throughout the budget period.

Lastly, the CY 2023 rate projections are based on the following primary sales forecast assumptions: Return to normal local rainfall; Continuation of above-normal temperature trend; Local supply projections consistent with member agencies' estimates; and Total demand projected to increase year-over-year based on member agency estimates.

Section 3

REVENUE REQUIREMENTS

A revenue requirements analysis defines the annual system revenue needed to be recovered through water rates and charges. The revenue requirement is typically derived from five components: Operations and Maintenance Expenditures, Annual Debt Service, Policy Requirements and Coverage, Capital Expenditures, and Offsetting Revenues.

Table 2 outlines the Water Authority's CY 2023 revenue requirements.

Table 2 Revenue Requirements Summary (in \$ millions)

Revenue Component	CY 2023 Total	Description	Report Section
Operating Costs	\$61.20	The Operating Department's Budget funds the day-to-day operations of the Water Authority.	3.1
Equipment & Replacement	\$2.56	Funds the replacement of equipment such as vehicles or software	3.1
Debt Service (LTD + STD)	\$135.76	The Water Authority uses debt to fund capital and refund previous debt. Excludes planned cash defeasance	3.3.1
Offsetting Revenues	(\$105.72)	Additional revenues generated from sources outside traditional water rates and charges are applied as a credit to reduce required rates and charges revenues. Includes the IAC, standby availability charges, system and treatment capacity charges, property taxes, interest earnings, and miscellaneous revenues.	3.4
Operating Rev. Req. Before Coverage	\$93.81	Revenue requirements associated with the Water Authority's operating costs, debt service, and offsetting revenues.	
Misc. Cost Recovery	\$11.29	Miscellaneous Cost Recovery includes seepage and evaporation, recovery of working capital for the San Vicente dam raise, local supply development, and Twin Oaks Valley WTP reimbursement	3.2
Rev. Req. Before Coverage	\$105.09	Revenue requirements including miscellaneous cost recovery.	
Remaining Coverage and Reserve Driven Needs	\$72.16	Revenue requirements associated with meeting the Water Authority's Financial Management Policies.	3.7
Water Sales Revenue Requirement	\$177.25	Total required revenues including coverage and reserve needs.	

The following section of this report delineates the cost categories included in the Water Authority's annual revenue requirement analysis.

3.1 Operations and Maintenance Costs

As part of the multi-year budget, an operating forecast is developed by the Water Authority's various departments. For the Water Authority, operating budget expenditures account for most of the day-to-day expenditures for operation. The operating budget expenditures include: Administrative Services, Colorado River Program, Engineering, Finance, General Counsel, General Manager, MWD Program, Operations and Maintenance, Public Outreach and Conservation, and Water Resources. For CY 2023, the Water Authority's operating costs are projected to be \$61.20 million.

Table 3 **Determination of Operating Cost**

Operating Costs	FY 2023 and 2024 Expenditures ⁽¹⁾
FY 2023 Operating Budget	\$60.30
FY 2024 Operating Budget	\$62.11
Total FY 2023 and 2024 Operating Costs Used for Rates and Charges	\$122.41
Calculated CY 2023 Operating Costs ⁽²⁾	\$61.20

Notes:

(1) Presented in million dollars, calculations in tables may not sum due to rounding.

(2) CY 2023 Operating Costs are calculated by averaging the Total FYs 2023 and 2024 Operating Costs used for rates and charges, as the calendar year rates will collect half of each fiscal year costs.

In conjunction with the Water Authority's budget development process, departments evaluate and recommend equipment replacement purchases based on a thorough process in which equipment and vehicles are reviewed to evaluate the necessity to the overall operations; suitability with the function being performed; past repair history; anticipated costs to continue maintaining; and options to cost effectively replace (i.e., lease, rental, and/or used purchases). During FY 2019 Water Authority staff performed an Equipment Replacement Fund (ERF) study, created a comprehensive ERF assets list and adopted a new ERF policy. The updated policy focuses on long range planning and will help moderate the fund balance as well as smooth the impact of replacing expensive equipment such as vehicles or software. For CY 2023, an Equipment Replacement budget of \$2.56 million is forecasted and includes updates to the Supervisory Control and Data Acquisition system, computers and servers, and critical vehicle and equipment replacements.

3.2 Miscellaneous Cost Recovery

Miscellaneous Cost Recovery consists of expenses not included in annual Operating Costs and other cost recoveries to the Water Authority. Miscellaneous Cost Recovery is an important element of the Water Authority's annual revenue requirements.

Miscellaneous Cost Recovery totals \$11.29 million in CY 2023, which is allocated to rate categories based on the nature of the cost that was incurred. Miscellaneous Cost Recovery includes the following:

- **Emergency Storage Project Evaporation and System Losses:** This cost accounts for the cost of purchased water that is lost due to surface water evaporation or other system losses. As this is a function of storage, the \$9.66 million cost has been allocated to the storage rate component and will be recovered through the CY 2023 rates.

- **Local Water Supply Development:** This is the cost to implement local water supply projects within the Water Authority's service area in order to provide a long-term reliable and sustainable supply. The cost is recovered through the Customer Service charge. A total of \$0.88 million will be recovered through the CY 2023 rates.
- **Twin Oaks Reimbursement:** This reimbursement reflects a 25-year payback to customer service for the upfront investment in the implementation of the Twin Oaks Valley Water Treatment Plant. This original investment was funded through use of Pay-as-you-Go (PAYGO) funds, which had been historically collected from the non-treatment functional rate categories. The cost is recovered through the treatment charge. A total of \$0.74 million will be recovered through the CY 2023 rates.

3.3 Capital Costs

The Water Authority's existing CIP is based on a detailed staff assessment of projects stemming from budget discussion and development of capital needs for the 2021 Long Range Financing Plan. These CIP projects include a mix of new facilities that will add capacity to existing conveyance, storage, and treatment facilities, as well as repair and replace aging infrastructure. In order to take advantage of historically low interest rates and maintain cash for financial flexibility, the Water Authority issued new debt (2022A) to fund a majority of near-term projects.

3.3.1 Annual Debt Service

The Water Authority has adopted a comprehensive set of financial policies. The Debt Management Policy sets forth comprehensive guidelines for the issuance and management of the Water Authority's debt.

The Water Authority finances major capital improvements, in part, by issuing debt for two primary reasons. First, given the size of past capital projects, the Water Authority did not have the financial reserves available that would otherwise be required to solely fund the CIP, nor would it have been advisable to increase the water rates and charges in order to cash fund these improvements. Second, spreading the debt service costs for the project over the repayment period provides intergenerational equity by effectively spreading the financial recovery (burden) between both existing and future users of the system. This approach allows the Water Authority to better match the cost of improvements with those benefitting from the improvements. This methodology is internally consistent with the development of the Water Authority's System and Treatment Capacity Charges.

Finally, as an auxiliary benefit to the use of debt, the cash generated from meeting the Water Authority's coverage requirements provides additional cash that can be used to fund PAYGO projects.

Excluding the Build America Bonds (BABs) subsidy, Helix apportioned debt and planned defeasance, the net FY 2023 and FY 2024 long-term debt service expenditure for allocation are \$121.09 million and \$121.34 million respectively, resulting in expected long-term debt payments of 121.2 for CY 2023. This reflects a rebalancing effort after the FY 2021 refunding decisions to front-load savings. Short-term debt service expenditures, excluding Helix, for FY 2023 and FY 2024 are projected at \$14.26 million and \$14.87 million, respectively, resulting in expected short-term debt service of \$14.56 for CY 2023.

The sum of these debt obligations does not reflect any future debt restructuring and nor the Water Authority's its ability to take advantage of optimal market conditions in order to reduce its debt burden. This is done to ensure proper allocation and appropriation of expenses – these actions are reflected in the final results and planned use of reserves.

3.3.2 Non-Debt Capital Expenditures

To maintain its targeted capital structure, the Water Authority has historically augmented its use of short and long-term debt by funding a portion of its capital program with cash through its PAYGO Funds. The Water Authority amortizes the cash funds used for capital to reduce the immediate and cyclical impact on rates. In addition, as stated above, excess funds derived from meeting the Water Authority's targeted debt coverage ratio enables cash funding of capital projects. Earlier this year, the Water Authority issued the 2022A series to fund a majority of its near-term capital needs.

3.3.3 Depreciation and System Replacement

The Water Authority does not adjust rates to recover system depreciation. Rather, the Water Authority operates on a cash basis and the cost to rehabilitate and improve the system is accounted for through direct capital reinvestments. The cost of renewing the system over time is captured in the on-going renewal and replacement related CIP, as included in the 30-year budget. This approach also creates consistency with the Water Authority's capacity charge methodology, which excludes depreciated asset values from the buy-in cost basis of the charge, and then recovers a proportionate share of the CIP through the charge. It is important to note that once a meter is connected to the system, the user is then obligated to fund a proportionate share of future capital improvements and ongoing debt obligations through the water rates and charges.

3.4 Offsetting Revenues to Reduce Revenue Requirements

Beyond water rates and charges, the Water Authority collects revenues through other various funding sources. These revenues provide a credit against the total revenues that must otherwise be collected annually from rates. Offsetting revenues include the IAC, standby availability charges, system and treatment capacity charges, property taxes, interest earnings, and miscellaneous revenues.

Table 4 details the offsetting revenues and provides a brief description of the source of revenue.

Table 4 Offsetting Revenues (in \$ millions)

Revenue Component	CY 2023 Revenues	Description
Capital Offsets		
System Capacity Charge	\$17.37	The charge is designed to recover a proportionate share of the capital costs associated with providing services to new connections in the Water Authority's service area.
Treatment Capacity Charge	\$0.49	Helps fund the Water Authority's regional water treatment facility. The charge recovers a portion of the capital costs from the future users of the treatment facility.
Standby Availability Charge	\$11.11	This fixed charge, which is in the nature of a special assessment, is limited by statute and funds some of the capital costs associated with maintaining the system. It is \$10 per acre per year, or \$10 for a parcel less than one acre per year. The charge was first established prior to the adoption of Proposition 218 and has been continuously levied pursuant to law at pre-Proposition 218 levels.
PAYGO Earnings	\$0.27	Interest earnings on the Water Authority's PAYGO Fund.
Operating Offsets		
Property Tax	\$16.59	The Water Authority receives a portion of the 1% property tax pursuant to the Revenue and Taxation Code.
IAC	\$47.80	The IAC is an annual service charge that is imposed on member agencies and apportioned based on all retail water meters within the Water Authority's service area. The IAC maintains a minimum ratio of projected fixed revenues to projected fixed expenditures of 25% in any future fiscal year, excluding fixed water rate revenues.
Interest Earnings	\$5.97	Interest earnings on operating funds.
Specific Revenues	\$5.59	Revenues reflect directly allocated revenues for the reimbursement of previous capital outlays or reimbursements. For example, one revenue reflects a 25-year payback to customer service for the upfront investment in the implementation of Twin Oaks Valley Water Treatment Plant.
Misc. Revenue	\$0.54	Includes other nominal revenues.
Total Offsets	\$105.72	

3.5 Infrastructure Access Charge

In addition to revenues generated through the five rate and charge categories, the Water Authority has additional revenues used to meet the annual rate revenue requirements. The most significant of these offsetting revenues is the IAC. The IAC was implemented in 1998 by Board policy to reduce financial vulnerability due to fluctuations in annual Water Authority revenues. This is accomplished by increasing the amount of fixed expenditures recovered through fixed charges. The IAC was designed to generate a minimum 25 percent ratio of fixed revenues to fixed expenditures.

Consistent with the Board policy, the IAC equals the forecasted four-year average of debt service (long- and short-term debt) plus 80 percent of forecasted four-year average O&M costs, times 25 percent, times 110 percent. Based on the results of an expenditures analysis at the time of implementation, the Water Authority concluded that roughly 80 percent of the agency's operating costs were fixed (e.g., personnel costs) and did not vary based on water sales. Additionally, the level of fixed expenditures to be recovered through the IAC was established to mitigate fluctuations in net revenues due to water sales volatility that the Water Authority had experienced. Finally, in establishing the IAC Policy the Board increased the 25 percent fixed expenditure recovery to 25 percent multiplied by 110 percent. This accounts for potential fluctuations in expenditures and offsetting revenues, as well as costs yet to be identified in the four-year budget forecast.

In CY 2021, the Water Authority completed a ramp-up of the IAC to complement the Water Authority's financial planning efforts. The ramp-up followed the conclusion of Water Authority staff and Carollo, in CY 2020, that the method of funding capital (debt or cash) should not be viewed differently as both are a fixed cost to the agency. As such, a two-year ramp up of IAC was recommended to enable recovery of fixed costs in alignment with Board policy.

The forecasted increased use of PAYGO, as opposed to historically assumed regular debt issuances, better matches the R&R nature of the CIP (replacing depreciated assets). As detailed in the CY 2020 Cost of Service Study, it was recommended that the IAC reflect the fixed capital costs related to system maintenance and replacement (depreciation) as a fully developed multi-year CIP was not always available at that time, and depreciation can serve as a reasonable, albeit low, proxy for capital funding needs. With the development of a multi-year CIP for inclusion in the 2021 LRFP, the use of depreciation is no longer necessary. However, as the Water Authority develops an update to the Water Authority's Facility Master future changes may be necessary. The projected CIP has been updated to match those presented in the Water Authority's mid-cycled budget updated.

The forecasted four-year average of the Water Authority's Standby Availability Charge and property tax revenues are credited to recognize other fixed revenues. As detailed below, the CY 2023 IAC provides \$47.45 million in revenue offsets against the required water rate and charge revenues. The IAC is allocated to each member agency based upon the previous calendar year's total meter equivalents (as reported by the member agencies). A meter equivalent is based on a meter size less than one inch. For CY 2023, the monthly IAC is proposed to remain at the current charge of \$4.24 per household meter equivalent.

Two IAC calculation options were presented to the Board at the May Board meeting. The proposed option, based on previous guidance received at the April Board meeting, smoothed the IAC over the next two years by holding it constant at the current charge of \$4.24 per meter equivalent for CY 2023. An alternative option, calculated based on the Board approved IAC formula, was also presented. This option would have resulted in a 4-percent drop for CY 2023 followed by a 7.1-percent increase for CY 2024. Both options meet the cost of service requirements that the Water Authority must adhere to. The Board ultimately elected to move forward with the smoothed option to avoid unnecessary volatility and potential impacts to the member agencies' Proposition 218 processes or pass-through adjustments.

To smooth the IAC over the next two years, and avoid a decrease followed by a spike, the proposed CY 2023 rates would hold the IAC constant at the current charge of \$4.24 per meter equivalent. As shown in Table 5, which illustrates the calculation of the proposed IAC, the calculation for CY 2023 includes \$1.91 million for "Additional Funds for Smoothing". This smoothing is revenue neutral as the additional IAC revenue generated, as compared to the approved IAC formula, is used to further offset the Melded Supply Rate. The additional offset results in a \$5.00 per acre-foot reduction in the Melded Supply Rate.

Table 5 Infrastructure Access Charge Calculation (in \$ millions)

	4-Year Average FY 2023 – FY 2026
Long-Term Debt Service	\$126.43
Fixed Capital Cost (Paygo)	\$54.72
Total Short-Term Debt Service and Costs	\$15.18
Administration and Maintenance times 80%	\$50.89
Total Local Supply Development Costs times 80%	\$0.50
ESP Evaporation and System Losses times 80%	\$9.26
Desalination FY Pipeline Cost	\$10.57
Total Fixed Costs	\$267.55
Total Fixed Costs Times 110% Times 25%	\$73.58
<i>Less:</i>	
Other Tax Receipts	(\$16.92)
Standby Availability Charge Revenue	(\$11.11)
Additional Funds for Smoothing IAC (<i>One-Time</i>)	\$1.91
Remaining Fixed Cost Need (IAC Revenue)	\$47.45
Average Number of Meter Equivalents Used in Calculation	934,044
Proposed CY 2021 Monthly IAC Per Meter Equivalent (<i>in dollars</i>)	\$4.24/MEU

3.6 Revenue Sufficiency

Water Authority revenues must be sufficient on a fiscal year basis to meet two tests – (1) cash flow and (2) bond coverage. These sufficiency tests are commonly used to determine the amount of annual revenue that must be generated from an agency's rates.

- **Cash Flow Sufficiency Test:** The cash flow test defines the amount of annual revenues that must be generated in order to meet annual expenditure obligations of the utility. These needs can include direct cash expenditures as well as planned transfers or additions to reserves.
- **Bond Coverage Sufficiency Test:** Bond coverage refers to the collection in revenues to meet all operating expenses and debt service obligations plus an additional multiple of that debt service. The Water Authority has a legally required minimum bond coverage ratio of 1.20x and a policy target of 1.50x. The Water Authority, as do many utilities, established a policy target in excess of legal requirements to retain or attain high bond ratings with correspondingly lower interest costs.

The revenue requirement analysis sets water rate and charge revenues at a level sufficient to pass both tests. Revenue requirements are considered to be driven by either "cash flow" or "coverage" based on the test that requires a greater adjustment.

The Water Authority's annual revenue requirements remain coverage driven – it must generate revenues in excess of its cash needs in order to meet its legal and policy debt requirements. While recent refundings have lessened this driver for FY 2023 and FY 2024, coverage remains the primary driver of revenue sufficiency testing today and into the future. Cashflow generated by coverage is available to fund PAYGO capital projects, non-cash items, and/or reserves.

3.7 Financial Policies

Rate setting cannot be viewed as a single year process nor in a vacuum. There are many variables that fluctuate from year to year causing changes to demand as well as expenditures. Additionally, there may be known costs in the future that need to be proactively funded to prevent rate shock. Reserve and rate smoothing policies provide a mechanism to normalize and smooth rates over a multi-year process. These policies prevent a whipsaw effect of rates and provide greater predictability to its member agencies.

3.7.1 Debt Service Coverage Ratio

The Water Authority has a legally required minimum bond coverage ratio of 1.20x on senior lien debt service.⁴ In order to maintain strong bond ratings and mitigate the impacts of annual water demand fluctuations, the Board sets rates to meet a senior lien debt service coverage target of 1.50x, inclusive of RSF transfers, and 1.00x excluding capacity charge revenues. This policy was most recently affirmed in the 2021 LRFP.

As shown on the Figure 1, the Water Authority has a strong history of meeting the Board policy target of 1.50x. While not shown, the last time the Water Authority fell short of the Board target was in FY 2012 in order to mitigate rate increases due to water demand reductions associated with statewide drought conditions and water pumping restrictions from the Bay-Delta. Although the coverage ratio fell below the Board target, the Water Authority's coverage ratio remained above its legal requirement.

Given the Water Authority's rate increase mitigation strategies to front load refunding savings for CY 2022, debt service payments increased from those lower levels - which has reduced projected debt coverage. As a result, and in combination with higher costs, the forecast FY 2023 and FY 2024 coverages are projected much closer to the 1.50 target than was previously projected.

3.7.2 Rate Stabilization Fund (RSF)

In 2006, the Board strengthened key financial metrics, including establishing a target funding level for the RSF that better protected the Water Authority against the financial impact of reduced water sales. The Board revisited this Policy in 2018 with the adoption of Ordinance No. 2018-03.

The Water Authority sets aside money into the RSF (as available), which, by covenant, may be used to meet the Water Authority's legal bond coverage requirement in a year in which other revenues are insufficient. Use of the RSF is a critical short-term water rate management tool and helps the Water Authority manage weather and timing related revenue risks and stabilize annual revenue needs through rate smoothing.

Reduced water sales were projected assuming 2.5 years of wet weather (3.5 years max). At that time (2006), it was calculated that during a wet weather period, the Water Authority would experience a 25 percent reduction in water sales. However, in 2018 Carollo and staff recommended this policy be revised to 15 percent reduction in sales.

This change in the reserve policy was driven by continued improvements in water use efficiency. A 47 percent decline in per capita water use from 1990 to 2017 in the Water Authority's service area is an indicator of increasingly efficient water use practices throughout the region. As water use efficiency continues, regional water demand "hardens," becoming less susceptible to significant demand reduction due to wet weather. Carollo recommended, and the Board adopted, a staggered reduction process to draw down the reserve gradually.

⁴ This requirement is established by the Water Authority General Resolution as amended. This resolution and amendments are attached as Appendix D of this report.

As a result of recommended rate methodology and the Water Authority's desire to moderate rate increases, the Water Authority has forecasted continued draws in FY 2022 and FY 2023. It is forecasted that the Water Authority will continue leverage its reserves within policy limits to provide smooth and predictable rates.

For CY 2023, the Water Authority's revenue requirements continue to be coverage driven. In order to meet this policy bond coverage target, the Water Authority must collect roughly an additional \$72.16 million above its operating costs and debt service obligations.

Section 4

ALLOCATION OF REVENUE REQUIREMENTS TO FUNCTIONAL CATEGORIES

The purpose of a cost of service analysis is to provide a reasonable basis for distributing the full costs of the Water Authority's operations and capital investments to rate categories and then the member agencies in proportion to the demands placed on or benefits received from the system. The Water Authority currently maintains five functional rate categories. These components are developed and designed to mirror the nature in which expenditures are incurred. The Water Authority's operating budget is allocated, by division, to a specific rate category as a part of the development of the two-year budget process. This process is based on clear, concise, and consistent rate and charge category definitions. In the allocation process, if work performed in a department or program is not specifically applicable to one of the five rate categories defined below, it is considered General and Administrative (G&A). This category is applicable to departments that support the internal operations of the Water Authority, such as Finance and Administrative Services.

Debt issuances and the associated annual debt services are allocated to rate categories based on the specific capital improvement projects financed through bond sales. Additionally, the Water Authority utilizes a combination of cash and PAYGO reserves to pay for capital projects. However, in an effort to minimize the immediate impact to rates, the Water Authority amortizes cash expenditures directly to the related rate category. The Water Authority uses its calculated weighted cost of capital as the interest rate on cash used for capital expenditures in each respective year. The Water Authority assumes a 30-year amortization term to calculate the projected annual cash payment stream. The annual cash payments are allocated to rate categories based on the same percentages developed to allocate long-term debt service.

4.1 Allocation Categories

The Water Authority allocates its annual operating budget to the five functional rate categories. As applicable and identifiable, these expenditures are assigned directly to rate categories. For expenditures incurred for the general operations of the Water Authority, costs are allocated to G&A and then redistributed to five functional categories based on their weighted average of directly assignable operating costs. A description of each category is as follows:

4.1.1 Customer Service

The Customer Service charge is set to recover costs that are necessary to support the functioning of the Water Authority, to develop policies, and to implement system-wide programs. Costs recovered through the customer service charge include, but are not limited to, customer billing, public relations, and expenses associated with the Board of Directors.

4.1.2 Storage

The Storage charge is set to recover costs associated with the ESP and CSP. The ESP is a system of reservoirs, interconnected pipelines, and pumping stations designed to make water available to the San Diego region in the event of an interruption in imported water deliveries.

An example of expenditures or programs allocated to this category would be a division which works in support of the ESP projects such as Olivenhain Dam and Reservoir Operations in the Operations and Maintenance Department. Agriculture customers do not benefit from the Storage charge as addressed in Report Section 5.3.

4.1.3 Supply

The Supply rate recovers the cost of water supply incurred by the Water Authority, including the purchase of water from MWD, the IID, and the Coachella and the All-American Canals; costs of MWD wheeling for non-MWD water supplies; desalination water costs; and certain other costs associated with the QSA.

4.1.4 Transportation

The Transportation rate is set to recover capital, operating, and maintenance costs of the Water Authority's aqueduct system, including all facilities used to physically transport the water to member agency meters, excluding certain distribution facilities covered under the East County Treatment Agreement. An example of this category would be the maintenance division in the Operations and Maintenance Department. This division maintains the valves, pipelines, and facilities that are integral to the aqueduct system.

4.1.5 Treatment

The Treatment rate is designed to recover the Water Authority's cost of treating water. The Merged M&I Treatment Rate includes the costs of purchasing treated water from MWD, the operating and capital costs associated with the Water Authority's agreement with Helix Water District's Levy Water Treatment Plant, operating costs associated with the Olivenhain Treatment Plant (if applicable), and the operating and capital (debt service) costs associated with the construction of the Twin Oaks Valley Treatment Plant, as well as desalinated water costs allocated to this rate and may recover certain other costs associated with the delivery of treated water. As treated water is a result of the desalination process, the treatment rate is also used a proxy for deriving the treatment cost associated with production of the desalination supply. The resulting cost is also recovered through the Treatment Rate.

4.1.6 General and Administrative

Expenditures that cannot reasonably be allocated directly to a rate category are assigned to G&A, which supports the general function of the Water Authority. An example of a cost that is assigned to G&A is accounting. As no rate component directly relates to G&A, these costs are reallocated to the other rate components based on total direct budget allocation to customer service, storage, supply, transportation, and treatment.

4.2 Allocation Summary

As part of the 2014 rate setting process, Carollo held interviews with select departments and divisions in order to confirm the methodology and the appropriateness of application of cost of service principles during the annual budget process. This interview process is completed by staff in parallel with development of each new two-year budget.

The interviews evaluated the methodology and basis of the percentage allocations and developed the reasoning that allocations varied from the previous process, if applicable. In most cases, costs were allocated based on the historical and forecasted employee utilization and direct expenditures.

As a part of the FY 2022 and FY 2023 budget process, the allocations were updated consistent with historical practices; however, the updated allocations include the recent internal reorganization of various departments and divisions. This internal review accounted for changes in processes and day-to-day operations. Based on Carollo's review, the provided allocations appear reasonable and continue to be based on sound and defensible definitions.

The debt service and capital allocations developed in the Cost of Service Study reflect the continued shift in CIP efforts towards transportation and away from storage. This shift is amplified by the recent refundings and cash defeasance of debt series largely apportioned to Storage. These adjustments are reflected in each revenue requirement. Relative to CY 2020, the portion of debt-funded capital allocated to customer service and storage decreased, while the allocation to transportation has increased.

4.2.1 Allocation of Operating Costs

Table 6 illustrates the allocation of CY 2023 operating costs to each rate category based upon the total weighted average FY 2023 and FY 2024 expenditure allocation.

Table 6 Allocation of CY 2023 Operating Budget (in \$ millions)

CY 2022 Allocation	CY 2023 Expenditures	Customer Service	Storage	Supply	Transportation	Treatment
Percent Allocation	100.00%	35.37%	9.95%	15.48%	38.00%	1.21%
Cost Allocation	\$61.20	\$21.65	\$6.09	\$9.47	\$23.26	\$0.74

4.2.2 Allocation of Debt Service

For each debt issuance, the Water Authority actively allocates its use of long-term and short-term debt. Each issuance is apportioned to rate components based on specific projects funded. As a result, the Water Authority's debt service is allocated in a defensible and equitable manner. Table 7 provides a summary allocation of the total CY 2023 debt service by functional rate category.

Table 7 Debt Service Allocation Summary (in \$ millions)

Revenue Requirement ⁽¹⁾	CY 2023 Total	Customer Service	Storage	Supply	Transportation ⁽²⁾	Treatment
LTD Service	\$99.56	\$6.69	\$38.19	\$9.11	\$39.77	\$5.80
STD Service	\$14.56	\$0.93	\$4.17	\$0.90	\$8.02	\$0.55
Build America Bonds ⁽³⁾	\$21.64	\$1.45	\$8.30	\$1.98	\$8.64	\$1.26
Total Debt Service	\$135.76	\$9.08	\$50.65	\$11.98	\$56.43	\$7.61

Notes:

- (1) May not sum due to rounding.
- (2) Includes Super Subordinate rate for Desalination Pipeline (Transportation – LTD).
- (3) Amount is net and includes the associated \$10.7M subsidy.

4.2.3 Allocation of Offsetting Revenues

Offsetting revenues provide a credit against rate revenue needs. Operating revenue offsets are allocated to each functional rate category proportionate to the two-year average expenditures by rate category. Table 8 provides the allocation factors that are used to distribute each offsetting revenue.

Table 8 CY 2023 Allocation Factors for Offsetting Revenues

Methodology ⁽¹⁾	Applicable Offsetting Revenues	Customer Service	Storage	Supply	Transportation	Treatment
Capital, Excluding Treatment	System Capacity Charges	6.64%	29.72%	6.39%	57.25%	-
Treatment Only	Treatment Capacity Charge	-	-	-	-	100.00%
Total Capital	Water Standby Charges PAYGO Earning	6.38%	28.60%	6.15%	55.09%	3.78%
Total Expenditures	IAC Property Taxes and In-Lieu Charges Investment Income General Misc. Revenue	15.66%	29.62%	11.05%	39.15%	4.52%

Notes:

(1) These allocation factors do not cover all off-setting revenues, notably those that are allocated to specific functions.

Operating revenue offsets include property taxes, IAC revenue, interest earnings, and miscellaneous revenues. The Water Authority also accounts for system capacity charge revenue, water standby availability charges, and interest earning on PAYGO reserves. These capital related offsets are allocated to the Water Authority's customer service, storage, supply, transportation, and treatment rate components based on its respective share of the total capital expenditures for the two-year budget period. System capacity charge revenue continues to exclude treatment as no treatment costs are recovered in this charge.

Finally, treatment capacity charges are allocated directly to the Water Authority's treatment rate category as a reimbursement for treatment-related capital expenditures.

Some non-rate revenues are directly attributable to a specific function. These specific revenues are thus directly allocated to the function that is receiving the direct benefit or provided the upfront capital outlay to complete the project. This includes, but is not limited to, the Twin Oak Reimbursement, Hydroelectric revenues, and desalination reimbursements.

Table 9 illustrates the offsetting revenues and allocated offsets to each rate component.

Table 9 CY 2023 Offsetting Revenues (in \$ millions)

	Total Revenue Offsets	Customer Service	Storage	Supply	Transportation	Treatment
Capital Offset						
System Capacity Charge	\$17.37	\$1.15	\$5.17	\$1.11	\$9.94	\$-
Standby Availability Charge	11.11	0.71	3.18	0.68	6.12	0.42
Treatment Capacity Charge	0.49	-	-	-	-	0.49
PAYGO Earnings	0.27	0.02	0.08	0.02	0.15	0.01
Operating Offsets						
Property Tax	\$16.59	\$2.60	\$4.91	\$1.83	\$6.49	\$0.75
IAC	47.80	7.49	14.16	5.28	18.71	2.16
Interest Earnings	5.97	0.94	1.77	0.66	2.34	0.27
General Misc. Revenue	5.59	4.23	-	0.16	1.18	0.02
Specific Revenues	0.54	0.09	0.16	0.06	0.21	0.02
Total Offsets	\$105.72	\$17.22	\$29.42	\$9.80	\$45.15	\$4.14

4.2.4 Additional Expenses

As described in Report Section 3.1, the Water Authority incurs costs beyond those captured within the core budget, such as expenditures which were initially funded using reserves and then recovered from member agencies over time through rates. When developing the rates and charges, the Water Authority accounts for these additional expenditures separately from the base operating expenditures, allocating these expenditures directly to each rate category based on direct benefit.

Table 10 details the additional expenditures that are incurred by each rate category outside the operating budget.

Table 10 CY 2023 Additional Expenses (in \$ millions)

	Total Expense	Customer Service	Storage	Supply	Transportation	Treatment
Twin Oak Reimbursement	\$0.74	\$-	\$-	\$-	\$-	\$0.74
Local Water Supply Development	0.88	0.88	0.00	-	-	-
ESP Evaporation and Losses	6.53	-	6.53	-	-	-
ESP Water Purchases	3.13	-	3.13	-	-	-
Total Expense	\$11.29	\$0.88	\$9.66	\$-	\$-	\$0.74

4.2.5 Coverage + Reserve Driven Requirements

The bond coverage target is calculated based on net revenues, excluding capital expenses and policy requirements, such as additions to reserves. Although the bond coverage requirement applies to all Water Authority rates and charges revenues in aggregate, the Water Authority establishes rates to separately meet the 1.50x coverage test by rate category, proportionate to its share of overall debt. This approach is designed to recover bond coverage and reserve costs fairly and reasonably by rate category.

Based on the revenue requirements defined above, the Water Authority must generate an additional \$72.16 million through rates to achieve a 1.50x debt service coverage ratio and provide funding for reserves. This is illustrated in Table 11.

Table 11 Remaining Coverage and Reserve Allocation Summary (in \$ millions)

Revenue Requirement	CY 2023 Total	Customer Service	Storage	Supply	Transportation	Treatment
Remaining Coverage and Reserve Driven Needs	\$72.16	\$10.71	\$22.76	\$3.85	\$32.48	\$2.36

4.2.6 Summary of Allocation

Table 12 provides a summary of the Water Authority's revenue requirements and rate component allocations. The water sales revenue requirements reflect only the portion of water rates and charges related to direct Water Authority operating activities and do not include expenditures such as purchased water costs.

Table 12 Revenue Requirements Summary (in \$ millions)

Revenue Requirement	CY 2023 Total	Customer Service	Storage	Supply	Transportation	Treatment
Operating Costs	\$61.20	\$21.65	\$6.09	\$9.47	\$23.26	\$0.74
Equipment Purchase	\$2.56	\$0.91	\$0.26	\$0.40	\$0.97	\$0.03
Debt Service (LTD + STD)	\$135.76	\$9.08	\$50.65	\$11.98	\$56.43	\$7.61
Offsetting Revenues	(\$105.72)	(\$17.22)	(\$29.42)	(\$9.80)	(\$45.15)	(\$4.14)
Operating Rev Req Before Coverage	\$93.81	\$14.41	\$27.57	\$12.05	\$35.52	\$4.25
Additional Expenses	\$11.29	\$0.88	\$9.66	\$0.00	\$0.00	\$0.74
O&M Rev Req Before Coverage	\$105.09	\$15.29	\$37.24	\$12.05	\$35.52	\$4.99
Remaining Coverage and Reserve Driven Needs ⁽¹⁾	\$72.16	\$10.71	\$22.76	\$3.85	\$32.48	\$2.36
Water Sales Rev Req	\$177.25	\$26.00	\$60.00	\$15.90	\$68.00	\$7.35

Notes:

(1) Excludes use of reserves related to smoothing of melded supply or treatment rates (water supply or treatment purchases). These amounts are defined separately in Tables 17 (melded supply rate) and 19 (melded treatment rate).

Section 5

WATER RATES AND CHARGES

Based on the resulting revenue requirements analysis and detailed cost of service allocations, the revenue requirements for each rate and charge category are recovered from the member agencies based on water demand and usage factors. The Water Authority serves two classes of customers: Full Service and Special Agricultural Water Rate (SAWR) customers. As of CY 2022, per Board direction, the former transitional (TSAWR) program has expired and was replaced by the permanent (PSAWR) program. The PSAWR program is reviewed annually during this process to reaffirm the continued nexus between lower supply reliability and a lower cost of service.

In general, the Water Authority's rate setting follows a streamlined approach where each rate component relates back to a single and specific cost allocation category. This methodology is in contrast to that of many retail water agencies who, by virtue of their cost and rate structures, may need to combine revenue requirements from multiple categories into each rate component. The Water Authority's approach allows for each rate to accurately and proportionally reflect the Water Authority's cost to provide each component of its service while providing a high level of transparency in the rate setting process. It also results in a rate structure that can be easily communicated to each agency and incorporated into their respective rate planning efforts. The following section of this report summarizes the proposed CY 2023 water rates and charges.

5.1 Commodity Based Fixed Charges

Fixed revenues are distinguished from variable revenues as they provide a known and predictable annual source of revenue for an upcoming calendar year. The fixed commodity charges are allocated to each agency based on their proportionate share of either a three or five-year rolling average of water purchases.

This allocation methodology balances the fixed nature of the costs recovered by the fixed charges with the potential for shifting demands of the retail agencies. The rolling average purchase volumes provide a measure of each agency's use of the Water Authority's system that can evolve naturally over time with each agency's retail demands. The use of another fixed allocation methodology, such as MEUs, could sufficiently recover costs but would not account for lasting changes in agency demands i.e., development of local water resources or retail customer growth.

5.1.1 Customer Service Charge

Based on the cost of service analysis, \$26.0 million must be recovered through the customer service water rate in CY 2023. These costs are recovered as an annual charge, as these costs do not vary based on current year water demand. Specifically, the costs are allocated among the member agencies based on each agency's three-year rolling average of all purchases, excluding member agency wheeled water.

Table 13 CY 2023 Customer Service Revenue Requirement (in \$ millions)

CUSTOMER SERVICE REVENUE REQUIREMENT	
Capital Expenditures (LTD and STD)	\$9.08
Equipment Purchase	0.91
O&M + Share of Agency Operating Expenditures	21.65
Additional Expenses	0.88
Gross Revenue Requirements	\$32.51
Less: Offsetting Revenues	
Capital Related	(\$1.88)
Operating Related	(\$15.34)
RR before Coverage and RSF Support	\$15.29
Coverage + Reserves	\$10.71
Total Revenue Requirement	\$26.00

5.1.2 Storage

Based on the cost of service analysis, \$60.0 million is to be recovered through the storage charge in CY 2023, maintaining the same rate from CY 2022. The storage charge is a flat annual charge applied to non-agricultural water deliveries. The storage charge is allocated among the member agencies using a pro rata share of each agency's three-year rolling average of non-agricultural deliveries (including all users, member agencies, and third-party wheeling throughput). In return for not paying for storage, PSAWR program customers agree to receive a reduced level of service during an emergency than that received by the Water Authority's M&I customers.

The Water Authority's ESP and Carryover Projects are designed to make water available to the San Diego region in the event of an interruption in imported water deliveries. Because agricultural users that participate in the PSAWR program agree to reduced or interrupted service during times of water emergencies, they will not receive benefit from the Water Authority's investment in its long-term storage program. It is therefore appropriate to exclude agricultural deliveries from the calculation of the storage rate.

Table 14 CY 2023 Storage Revenue Requirement (in \$ millions)

STORAGE REVENUE REQUIREMENT	
Capital Expenditures (LTD and STD)	\$50.65
Equipment Purchase	0.26
O&M + Share of Agency Operating Expenditures	6.09
Additional Expenses	9.66
Gross Revenue Requirements	\$66.66
Less: Offsetting Revenues	
Capital Related	(\$8.42)
Operating Related	(\$21.00)
RR before Coverage and RSF Support	\$37.24
Coverage + Reserves	\$22.76
Total Revenue Requirement	\$60.00

5.1.3 Supply Reliability Charge

Based on recommendations from the A&F Committee and approval of the Board, the Supply Reliability Charge recovers the functional incremental supply costs allocated to enhanced supply reliability. The Committee recognized the importance of equitably recovering the cost of the Water Authority's investments in long-term water supply reliability in accordance with the cost of service requirements. The concept of a fixed charge for supply reliability was to balance the impact of the fixed costs on member agencies with the allocation of costs associated with long-term investments in supply reliability to member agencies based on a rolling average of M&I deliveries. Access to reliable supply benefits all member agencies regardless of whether the agency uses water every day or intermittently.

The approved methodology for determining the Supply Reliability Charge is as follows:

$$\begin{aligned} &\text{Supply Reliability Charge} \\ &= [(\text{Desal Water Cost} + \text{IID Water Transfer Cost}) - \text{MWD Tier 1 Equivalent Cost}] * 25\% \end{aligned}$$

For a full detailing of the calculation, the Supply Reliability Charge Report prepared by A&N Technical Services, Inc. is provided as Appendix E. Following this methodology, Table 15 details calculation of the proposed CY 2023 Supply Reliability Charge.

Table 15 Proposed CY 2023 Supply Reliability Charge

SUPPLY RELIABILITY CHARGE	
Desal Deliveries (TAF)	44.00
Desal Supply Cost (\$/AF)	\$2,584/AF
Desal – Reliable Water Cost (\$M)	\$113.68
IID Transfer Deliveries (TAF)	200.00
IID Transfer Cost (\$/AF)	\$1,292/AF
IID – Reliable Water Cost (\$M)	\$258.33
Desal + IID Total Deliveries (TAF)	244.00
MWD Tier 1 Untreated Rate (\$/AF)	\$855/AF
MWD Comparison Cost (\$M)	\$208.62
Differential [Desal + IID – MWD] (\$M)	\$163.39
SRC Defined Share of Differential	25%
Supply Reliability Charge (\$M)	\$40.85

As used in the above formula, Desalination deliveries are 44,000 AF/Y and IID Water Transfer Deliveries are 200,000 AF/Y in CY 2023.

The revenue generated from this charge will only be applied to offset the supply revenue requirement prior to determining the volumetric Merged Supply Rate. This charge will be allocated to member agencies based on a five-year rolling average of applicable historical water deliveries. This represents a 3.8 percent increase from the CY 2022 rate. With the projected IID and Desalination deliveries now at their expected long term levels, future adjustments to the SRC are forecasted to be minimal. Should MWD's Tier 1 Full-Service Supply Rate continue to escalate beyond the escalation of reliable water, the SRC will decrease. This charge will be zero when MWD's Tier 1 costs are equal or greater than the combined Desalination and IID Water Transfer Costs.

The calculated Supply Reliability Charge follows general water industry cost of service-based rate-setting principles. By design, it cannot recover more than the costs allocated to the supply functional costs, as it is calculated as a portion of those functional supply costs. Further, it constitutes a reasonable allocation of functional supply costs in that it better aligns the fixed incremental supply costs incurred by the Water Authority to make highly reliable potable water supplies available to its member agencies with the benefits available to all water customers connected to the Water Authority integrated water system.

As detailed in the A&F findings, the rate addresses fairness by allowing for predictability of incurred charges (based on a rolling five-year average of historical deliveries) and adjustments to future charges imposed on each member agency as demand requirements change in the future due to local supply development or demand management. As approved, the Water Authority spreads the Supply Reliability cost to member agencies based upon their share of the rolling five-year average M&I deliveries.

5.2 Commodity Based Variable Rates

The commodity based variable water rates and charges are distinguished from fixed revenues as they are recovered based on monthly water sales.

5.2.1 Supply (Melded M&I Supply Rate)

The Melded Untreated M&I rate is a volume rate assessed on a per acre-foot basis. The rate is a combination of direct and indirect costs. The revenue requirement apportioned to the supply rate component is \$15.90 million and is detailed in Table 16.

Table 16 CY 2023 Melded Supply Revenue Requirement (in \$ millions)

MELED SUPPLY REVENUE REQUIREMENT	
Capital Expenditures (LTD and STD)	\$11.98
Equipment Purchase	0.40
O&M + Share of Agency Operating Expenditures	9.47
Additional Expenses	-
Gross Revenue Requirements	\$21.85
Less: Offsetting Revenues	
Capital Related	(\$1.81)
Operating Related	(\$7.99)
RR before Coverage and RSF Support	\$12.05
Additional Coverage	\$3.85
Total Revenue Requirement	\$15.90

For CY 2023, the total M&I supply costs are projected to total \$461.84 million. An addition to the cost of water, \$15.90 million must be recovered through rates to fund the supply's revenue requirements. The Supply Reliability Charge provides a revenue (cost of water) offset of \$40.85 million. Finally, an additional \$28.23 million in reserves is used to absorb (smooth) immediate rate increases. By dividing the total supply cost of \$408.67 million by total water sales, a per acre-foot cost of \$1,085 is calculated.

Table 17 Proposed CY 2023 M&I Melded Supply Rate

M&I MELDED SUPPLY RATE	
Acre-Foot Supplies (A/F) (000's)	
MWD Tier I Deliveries for M&I (exc. PSAWR)	54.95
Carlsbad Desalination Water Production	44.00
IID Deliveries	200.00
Canal Water Deliveries	77.70
System Losses	(2.60)
Total A/F Supplies for M&I (exc. PSAWR)	374.05
Water Purchase Costs (\$ Millions)	
MWD Tier 1 Water Purchases for M&I (exc. PSAWR)	\$46.98
Carlsbad Desalination Water Supply Cost	113.68
IID Water Purchases	258.33
Canal Water Purchases	42.85
Subtotal Water Purchase Costs	\$461.84
Additional Costs (\$ Millions)	
Supply Revenue Requirement	\$15.90
Pension Liability	-
Total Additional Costs	\$15.90
Offsetting Revenues (\$ Millions)	
Supply Reliability Credit	\$(40.85)
Cash and Reserves ⁽¹⁾	(28.23)
Total Supply Cost (millions)	\$408.67
<i>M&I Forecasted AF</i>	<i>376,651</i>
Proposed Melded Supply Rate	\$1,085/AF

Notes:

(1) Consists of operating funds and rate stabilization funds.

The proposed increase in the Melded Supply Rate is driven primarily by increases in the cost of water (Desalination, MWD, and QSA). MWD's Full Service Tier 1 Supply Rate is set to increase 7-percent from \$799 per acre-ft to \$855 per acre-ft in CY 2023. Desalination costs for CY 2023 are expected to be \$7.5 million higher than in CY 2022 due to 2,000 acre-ft of additional deliveries and an increase to the Desalination delivery cost per acre-foot. CY 2023 IID costs and Canal water purchases costs are projected to decrease by \$1.7 million and \$2.4 million, respectively, as compared to CY 2022 due to a decrease in exchange costs from MWD.

5.2.2 Treatment (Melded M&I Treatment Rate)

The Treatment rate is a volumetric rate, assessed on a per acre-foot basis, designed to recover the Water Authority's cost of treating water. The Water Authority's direct revenue requirement related to Treatment is \$4.28 million as detailed in Table 18.

In addition, the rate will be set to recover the costs of purchasing treated water from MWD, the Levy and Olivenhain treatment plants, and the Water Authority's Twin Oaks Valley Water Treatment Plant, as well as desalinated water costs allocated to this rate and may recover certain other costs associated with the delivery of treated water.

Table 18 CY 2023 Melded Treatment Revenue Requirement (in \$ millions)

MELED TREATMENT REVENUE REQUIREMENT	
Capital Expenditures (LTD and STD)	\$7.61
Equipment Purchase	0.03
O&M + Share of Agency Operating Expenditures	0.74
Additional Expenses	0.74
Gross Revenue Requirements	\$9.13
Less: Offsetting Revenues	
Capital Related	(\$0.92)
Operating Related	(\$3.22)
RR before Coverage and RSF Support	\$4.99
Additional Coverage	\$2.36
Total Revenue Requirement	\$7.35

Table 19 outlines the Water Authority's forecasted treated acre-foot demand, incurred treatment costs, and corresponding melded treatment rate. Similar to the melded supply rate, the costs associated with the operation of the Twin Oaks Water Treatment Plant (\$8.04 million) will be recovered through the CY 2023 rates outside the revenue requirements outlined in Table 18.

The Water Authority spreads the Melded Treatment costs over the forecasted acre-feet demands. The proposed CY 2023 Melded Treatment rate is \$350 per acre-foot an increase of 12.9 percent. Reserves are being used to mitigate a further spike as the Water Authority assesses future demands on the treated system.

Table 19 Proposed CY 2023 Melded Treatment Rate

MELED TREATMENT RATE	
M&I Treatment Demands - (AF 000's)	
MWD	59.4
Carlsbad Desalination Production	44.0
CWA (Twin Oaks)	25.4
Helix	17.0
Total Demands	145.8

MELDED TREATMENT RATE	
M&I Treatment Costs (\$ Millions)	
MWD	\$21.01
Desalination Water	15.40
Treatment Revenue Requirement	7.35
CWA Contract Treatment Cost	8.04
Helix	2.29
Treatment Cost	\$54.09
Cash and Reserves	\$(3.07)
Total Revenue Requirement	\$51.02
Treated Forecast (AF)	145,762
Proposed Melded Treatment Rate	\$350.00/AF

5.2.3 Transportation

The Transportation rate is a uniform rate set to recover capital and operating and maintenance costs of the Water Authority's aqueduct system, including all facilities used to physically transport the water to member agency meters. The Transportation rate is charged to member agencies based on water deliveries. While this existing methodology reflects each agency's specific usage and applies rates consistently and proportionately, the recent volatility highlights revenue risk. As these costs are largely fixed and given the variability in annual demands, the existing transportation methodology should be reviewed annually to ensure continued equity and recovery. The CY 2023 was forecasted to increase given lower overall demands (without any corresponding decreases in expenses) and higher allocation of debt and capital expenses. However, due to increased offsetting revenues and rate smoothing steps taken by the Water Authority, the transportation rate is proposed to remain unchanged.

Table 20 Proposed CY 2023 Transportation Rate (in \$ millions)

TRANSPORTATION RATE	
Capital Expenditures (LTD and STD)	\$56.43
Equipment Purchase	0.97
O&M + Share of Agency Operating Expenditures	23.26
Additional Expenses	-
Gross Revenue Requirements	\$80.67
Less: Offsetting Revenues	
Capital Related	\$(16.21)
Operating Related	(28.94)
RR before Coverage	\$35.52
Coverage + Reserves	32.48
Total Revenue Requirement	\$68.00
<i>AF Deliveries Subject to Transportation Rate</i>	<i>394,111</i>
Proposed Transportation Rate	\$173/AF

The Water Authority spreads the Transportation cost over all forecasted acre-feet demands, less water taken directly from MWD, to generate the Transportation rate. The proposed CY 2023 Transportation rate continues to be \$173 per acre-foot.

5.3 Permanent Special Agricultural Water Rate Program

In October 2008, faced with a prolonged drought and rising water costs, the MWD Board voted to terminate the Interim Agricultural Water Program (IAWP) through a five-year phase-out of the program ending December 31, 2012. The IAWP was a discounted rate for surplus system supplies available for the purpose of growing agricultural, horticultural, or floricultural products.

In response to MWD's phase-out of IAWP, in October 2008, the Water Authority Board approved the TSAWR and formed a SAWR Board Workgroup to develop a recommended permanent program. In March 2010, the Board approved the Workgroup recommendation for a permanent TSAWR that would begin January 1, 2013, and only include the storage charge exemption.

On April 26, 2012, the Board voted to extend the TSAWR program for two additional years to provide agricultural customers with additional time to transition to the higher cost of water. On March 26, 2015, the Board again voted to extend the TSAWR program through December 31, 2020.

On March 26, 2015, the Board approved the extension of the TSAWR program through December 31, 2021. Based on the FSTF recommendation, in November 2019, the Board directed staff to develop a permanent program in coordination with the CY 2021 Rate Setting Process. Similar to the existing transitional program, the adopted PSAWR Program lower cost continues to recognize the reduced supply reliability. While the adopted rate is defined through the cost of service process, the specific program details and eligibility requirements were developed over a near year long process led by Water Resources.

Under the PSAWR program, agricultural users receiving untreated water are charged the MWD Full Service Untreated Tier 1 water rate. In CY 2023, this rate is \$855 per acre-foot. Agricultural users receiving treated water are also charged the MWD untreated rate plus the Water Authority's Melded Treatment Charge, which is proposed at \$350 per acre-foot in CY 2023, as shown above. Transportation and customer service-related costs are recovered through each member agency's Transportation and Customer Service rates.

5.4 Capacity Charge Increase

Section §5.9 of the County Water Authority Act permits the Water Authority to fix and impose capacity charges on each of its member agencies or upon ultimate users of water delivered by the Water Authority to the member agencies. Capacity charges are a one-time payment for new or upsized meters to fund the cost to construct capacity to serve that meter. These capacity charges may include components for water resources, production, storage, distribution, treatment, and financial reserves. However, the Water Authority must demonstrate a reasonable nexus between the amount of the charge and the cost of capacity to serve new development.

Based on the 2018 Capacity Charge Report, Carollo found that the Water Authority's methods for calculating the System Capacity Charge and the Treatment Capacity Charge continue to be consistent with applicable AWWA and industry standards, Board policy, and applicable legal requirements. Consistent with Ordinance 2018-04, Carollo also recommended that, between studies (every three to five years), the Water Authority continue its policy to escalate the implemented charges by an appropriate inflationary metric.

Based on this analysis, both the System and Treatment Capacity Charges are thus escalated to CY 2023 levels using the Engineering News-Record Construction Cost Index (ENR-CCI) index for the City of Los Angeles. The percent increase in the index from December 2020 to December 2021 for Los Angeles (approximately 7 percent) is used as an escalator for the system and treatment capacity charges as shown in Table 21.

Table 21 Proposed System and Treatment Capacity Charge Increases

Calendar Year	System Capacity Charge (\$/new MEU)	Treatment Capacity Charge (\$/new MEU)
Existing	\$5,328	\$149
CY 2023	\$5,700	\$159

Section 6

FINDINGS

Based on the independent review performed for this rate study, Carollo confirms the Water Authority's existing methodology, cost allocations, rate-setting principles, and proposed CY 2023 rates are reasonable and consistent with the AWWA cost of service principles, Board policies, and California legal requirements. Carollo's finding for this study are as follows:

- Beyond the financial measures identified by the Water Authority, revenue adjustments are necessary.
- A combination of revenue adjustments and RSF utilization are necessary to cover the Water Authority's budget requirements.
- The Water Authority has significant detail and a sound basis for existing and proposed water rates and charges.
- The resulting cost of service allocations and existing methodology provide a clear, reasonable, and defensible nexus between the cost of service provided and rates charged.
- The Water Authority rate structures effectively and appropriately recover the allocated costs from each member agency.
- Board policies and cost of service guidelines are applied alongside industry best practices and AWWA M1 standards, and the rates and charges adhere to the legal requirements as described within this report.
- It is reasonable to temporarily smooth the IAC, albeit it outside the prescribed Board policy. The proposed IAC maintains the spirit of the formula while also encouraging greater rate smoothing and predictability. The proposed IAC at \$4.24 per MEU achieves the Board directive of 25 percent fixed cost recovery.
- The existing methodology yields an appropriate and reasonable method for allocating costs, which continues to be sustained despite changes to cost drivers and changes to demands.
- Based on the current RSF balance and the recent revision to the RSF methodology, the proposed CY 2023 water rates and charges plan continued utilization of the RSF in FY 2023. As a result, the Water Authority will continue to meet the Board's DSCR target of 1.50x.
- A more detailed discussion and guidance of future RSF utilization, overall reserves levels, and rate guidance (new 10-year High/Low) is provided as part of the 2021 Long-Range Financing Plan.
- Adjust the System and Treatment Capacity Charge schedules based on the annual percentage change in the ENR-CCI LA (7 percent).

Appendix A

INFRASTRUCTURE ACCESS CHARGE RESOLUTION

RESOLUTION NO. 98-26

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SAN DIEGO
COUNTY WATER AUTHORITY SETTING THE AMOUNT OF THE
INFRASTRUCTURE ACCESS CHARGE PURSUANT TO SECTION
15.3.5 OF THE ADMINISTRATIVE CODE

WHEREAS, on January 8, 1998, the Board of Directors adopted an Implementation Plan for Proposed Changes to the Authority's Revenue Structure; and

WHEREAS, on March 12, 1998, the Board of Directors conducted a public hearing duly noticed by publication to consider a revised revenue structure including a proposed infrastructure access charge; and

WHEREAS, on March 26, 1998, the Board of Directors adopted Resolution No. 98-10, amending Article 15 of the Administrative Code adding Section 15.3.5 establishing an infrastructure access charge the amount of which would be determined by later action of the Board of Directors ; and

WHEREAS, Section 15.3.5 of the Administrative Code provides that the infrastructure access charge shall be set at an amount which, when added to the Authority's Water Standby Availability Charge and property tax revenues, will provide funding for at least 25 per cent of the Authority's estimated annual fixed costs, and further, that member agencies shall pay the infrastructure access charge based on the number and size of retail water meter connections within their respective jurisdictions; and

WHEREAS, on April 9, 1998, the Board of Directors established June 11, 1998, as the date for a public hearing to consider protests to the infrastructure access charge; and

WHEREAS, notice of the hearing to consider protests regarding the amount of the infrastructure access charge was mailed to owners of real property, as referred to in Articles XIIC and XIID of the California Constitution, not less than 45 days prior to the public hearing; and

WHEREAS, on June 11, 1998, the Board of Directors held a public hearing and considered the protests regarding the amount of the infrastructure access charge; and

WHEREAS, the Board of Directors did not receive a majority protest to the amount of the infrastructure access charge; and

WHEREAS, pursuant to Section 15.3.5 of the Administrative Code and as recommended by the "Final Report, Revenue Plan Review (Including Implementation

Steps" dated December 1997 prepared by R. W. Beck, consulting engineers, the Board of Directors hereby declares that the annual fixed costs of the Authority for the purposes of calculating the infrastructure access charge shall include annual payments of principle and interest on debt of the Authority, eighty percent of all operation and maintenance expenses as established by the Board in the annual budget, and payments to member agencies for generation of reclaimed water.

WHEREAS, the Board of Directors has considered the information relating to the infrastructure access charge and has determined that the revenue derived from the charge will, when combined with standby charges and property tax revenues, provide the sum necessary to pay at least twenty-five percent of the estimated annual fixed costs of the Authority, including but not limited to debt service; and

WHEREAS, the Board of Directors has determined that the amount of the infrastructure access charge for each member agency charge as set forth in this resolution complies with the requirements of Section 15.3.5 of the Authority's Administrative Code; and

NOW, THEREFORE, IT IS HEREBY RESOLVED by the Board of Directors of the San Diego County Water Authority as follows:

1. The foregoing recitations are true and correct.
2. The monthly amount of the infrastructure access charge to be collected from each member agency pursuant to Section 15.3.5 of the Authority's Administrative Code, commencing on January 1, 1999, is established as follows:

Carlsbad Municipal Water District	\$ 25,385
City of Del Mar	\$ 2,442
City of Escondido	\$ 30,744
Fallbrook Public Utilities District	\$ 10,261
Helix Water District	\$ 62,433
City of National City	(See Sweetwater Authority)
City of Oceanside	\$ 49,222
Olivenhain Municipal Water District	\$ 17,125
Otay Water District	\$ 37,988
Padre Dam Municipal Water District	\$ 24,678
City of Poway	\$ 14,829
Pendleton Military Reservation	\$ -0-
Rainbow Municipal Water District	\$ 11,157
Ramona Municipal Water District	\$ 9,967
Rincon del Diablo Municipal Water District	\$ 8,938
City of San Diego	\$354,539
San Dieguito Water District	\$ 14,591
Santa Fe Irrigation District	\$ 10,269

South Bay Irrigation District	(See Sweetwater Authority)
Sweetwater Authority	\$ 43,373
Vallecitos Water District	\$ 17,194
Valley Center Municipal Water District	\$ 12,889
Vista Irrigation District	\$ 31,946
Yuima Municipal Water District	\$ 564

Pursuant to Section 15.3.5 of the Administrative Code, the Board of Directors, by resolution, may establish a system of credits that member agencies may offset against the charge set by this section.

3. The amount of the monthly infrastructure access charge for each member agency has been determined based upon information provided by member agencies summarized in the table attached hereto as Attachment 1, and is apportioned based upon anticipated water delivery measured by the number of "household meter equivalents" served by each member agency. The infrastructure access charge for the Pendleton Military Reservation has been established at \$0.00 due to the unique circumstances and limitations of its current receipt of service from the Authority.

4. The General Manager shall require each member agency to provide sufficient information to permit the Manager, or the Manager's designee, to evaluate the water use potential of a member agency based upon the number and types of water meters within the member agency as of December 31 of each year. There after the General Manager shall determine the infrastructure access charge according to the procedures set forth in Attachment 2 to this resolution and shall recommend any adjustments to the charge to the Board of Directors.

5. The Board of Directors, by resolution, may from time-to-time adjust the infrastructure access charge to account for changes in capital improvement costs, operation and maintenance expenses, and other fixed costs to assure revenue from the charge, when combined with revenue from property taxes and stand-by charges, is sufficient to pay at least twenty-five percent of the Authority's fixed costs as defined in this resolution. Based upon current capital improvement plans, it is estimated that the infrastructure access charge will increase to \$2.00 per month per household meter equivalent over the next ten years. Further, the charge is subject to future adjustments for inflation and modifications of capital improvement plans. The procedure by which the Board of Directors established and set the infrastructure access charge, or adopted this resolution, shall not be deemed to establish a precedent for future proceedings of the Authority to establish, levy, set, or increase any fee or charge.


PASSED, APPROVED, AND ADOPTED this 11th day of June, 1998.

AYES: Unless noted below, all Directors voted aye.

NOES: Chenelle, Mason, & Pocklington

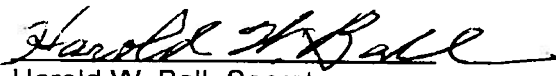
ABSTAIN:

ABSENT: Fowler, Krauel, Madigan, & McMillan



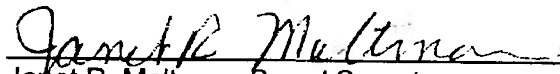
Chris Frahm, Chair
Board of Directors

ATTEST:



Harold W. Ball, Secretary
Board of Directors

I, Janet R. Maltman, Board Secretary of the Board of Directors of the San Diego County Water Authority, do hereby certify that the above and foregoing is a full, true and correct copy of said resolution No. 98-26 of said Board and that the same has not been amended or repealed.



Janet R. Maltman, Board Secretary
Board of Directors

I:\IACRES.DOC

SDCWA Active Retail Meters Equivalent to 3/4" or Smaller (as of 12/31/97)

Multiplier		1.00	1.00	1.00	1.60	3.00	5.20	2 1/2"	9.60	16.40	5"	30.00	52.00	78.00	132.00	286.00	12/31/1997's
Agency ID	C. Yr.	5/8"	3/4"	1"	1 1/2"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	16"	Subtotal
Calisbad	1997	14,340	1,374	1,174	1,503	5,892	0	230	394	0	270	208	0	0	0	0	25,385
Del Mar	1997	1,151	314	258	150	333	0	29	0	0	0	0	52	156	0	0	2,442
Escondido	1997	18,712	323	3,360	2,352	4,020	0	499	738	0	480	260	0	0	0	0	30,744
Fallbrook	1997	0	5,468	2,184	1,134	1,056	0	125	115	0	180	0	0	0	0	0	10,261
Helix	1997	46,802	3,164	2,195	2,814	6,594	0	163	49	0	600	52	0	0	0	0	62,433
Oceanside	1997	33,311	0	3,238	2,265	6,193	0	835	2,001	0	390	832	156	0	0	0	49,241
Olivenhain	1997	1,937	9,549	1,901	1,602	1,690	0	154	262	0	30	0	0	0	0	0	17,111
Otay	1997	3	28,129	1,406	2,067	4,493	0	269	607	0	390	0	624	0	0	0	37,988
Padre Dam	1997	16,750	1,753	1,715	1,014	2,356	0	269	377	0	210	0	234	0	0	0	24,678
Poway	1997	1,079	10,394	1,008	723	1,238	0	144	49	0	90	104	0	0	0	0	14,829
Rainbow	1997	387	1,758	3,371	1,833	3,042	0	490	246	0	30	0	0	0	0	0	11,157
Ramona	1997	425	6,937	525	336	978	0	701	66	0	0	0	0	0	0	0	9,967
Rincon	1997	5,541	7	1,554	546	785	0	221	82	0	150	52	0	0	0	0	8,938
San Diego	1997	8	215,194	26,093	27,888	55,666	0	4,253	6,134	0	7,020	6,864	4,056	792	572	0	354,539
San Dieguito	1997	4,118	3,824	2,461	1,329	2,772	0	19	16	0	0	52	0	0	0	0	14,591
Santa Fe	1997	49	3,358	2,750	2,436	1,342	0	77	115	0	90	52	0	0	0	0	10,269
Sweetwater	1997	28,211	0	5,078	2,688	6,448	0	125	115	0	240	156	312	0	0	0	43,373
Vallecitos	1997	11,087	703	1,003	1,494	1,810	0	182	279	0	480	0	156	0	0	0	17,194
Valley Center	1997	0	4,289	1,790	1,308	3,396	0	1,939	33	0	30	104	0	0	0	0	12,889
Vista	1997	5,613	14,433	3,322	3,312	4,103	0	451	197	0	360	156	0	0	0	0	31,946
Yuma	1997	50	1	18	15	47	0	106	82	0	90	0	156	0	0	0	564
CWA Total Mtr. Eqv.		189,574	310,972	66,405	58,809	114,249	0	11,280	11,956	0	11,130	8,944	5,850	792	572	0	790,531

PROCEDURES FOR DETERMINING THE INFRASTRUCTURE ACCESS CHARGE

The Infrastructure Access Charge shall be adjusted each year to maintain an estimated income, when combined with estimate income from taxes and standby charges, sufficient to pay at least twenty-five percent of the Authority's annual fixed costs. The annual fixed costs of the Authority for the purposes of calculating the infrastructure access charge shall include annual payments of principle and interest on debt of the Authority, eighty percent of all operation and maintenance expenses as established by the Board in the annual budget, and payments to member agencies for generation of reclaimed water. The adjustment shall occur as a part of, and in the same manner as, the Authority's regular rate-setting process.

The steps for setting the IAC will be as follows:

- 1) In January of each year, the Authority will request each member agency to provide a count of retail water meters serviced by that agency and active as of December 31 of the previous year. The meter count shall be based on the number of equivalent household meters, using multiplication factors established by the Authority's Director of Engineering for each meter size to determine the number of household meter equivalents. (Criteria for including a meter in the active retail meter count are given later.)
- 2) The estimated average annual fixed capital and operating expenditures for the following four fiscal years will be established through the annual budgeting process by the end of March of each year.
- 3) The estimated average annual fixed capital and operating expenditures for the next four years will be multiplied by 25% to establish the minimum level of fixed revenues required for the next fiscal year. Since actual expenditures can vary from the budget estimates upon which the IAC will be based, the estimate of the minimum level of required fixed revenues will be increased by 10% to provide increased assurance that actual fixed revenues will be at least 25% of actual fixed expenditures.
- 4) Estimated income from the Authority's other fixed income sources (standby charges and property taxes) will be subtracted from the estimated minimum level of fixed revenues to establish the total revenue required from the IAC.
- 5) The total revenue required from the IAC will be divided by the sum of the meter counts of all the member agencies to establish the IAC for a household meter equivalent (the per-meter IAC).

- 6) The amount of the IAC charge to be levied against each member agency will be established by multiplying the member agency's meter count times the per-meter IAC.
- 7) The Board will adopt the fixed IAC charge for each member agency and the per-meter IAC at the same time the capacity charge and the water rate is set, typically in April.
- 8) Changes in the IAC will be effective the same date in the fiscal year that changes in the commodity rate are normally effective.
- 9) Meters will be counted using the following criteria and definitions:
 - All active retail water meters will be included in the meter count.
 - The meter count will be expressed as the number of household meter equivalents based on the same factors used for the capacity charge to compute the household meter equivalent for meters 1-inch and larger.
 - Active meters are defined as those meters which took water at any time during the preceding 12 months. If a meter is officially listed as inactive on a member agency's books on December 31, but has taken any amount of water during the previous 12 months, it must be included in the meter count.
 - Fire service and similar types of emergency meters are not counted, even if they have taken water during the previous 12 months.
 - Reclaimed water meters are not counted unless they are connected to a reclaimed water system that has used water from the Authority's system to meet more than 20% of that reclaimed water system's total demand during the past 12 months.
 - Meters of local distributors other than member agencies which receive water through a master meter from a member agency are not separately counted if the annual amount of water attributable to the Authority is less than or equal to 20 % of the total annual amount of water distributed by the local distributor.
 - Mutual support meters between member agencies are not counted.
 - Master meters within a member agency are counted if they are used by a member agency to bill retail customers.
 - Individual meters within a master metered area are not counted unless they are used by the member agency to bill retail customers in lieu of the master meter.
 - Meters in areas outside the Authority's service area are not counted unless they are a net recipient of imported water through one of the member agencies.
 - Meters receiving the Special Agricultural Rate will be counted.

Appendix B

ORDINANCE NO. 2002-03

ORDINANCE NO. 2002-03

AN ORDINANCE OF THE BOARD OF DIRECTORS OF THE SAN DIEGO COUNTY WATER AUTHORITY SETTING RATES AND CHARGES FOR THE DELIVERY AND SUPPLY OF WATER, USE OF FACILITIES AND PROVISION OF SERVICES

WHEREAS, Subdivision (13) of Section 5 of the County Water Authority Act provides that the Authority may: "Fix, revise, and collect rates or other charges for the delivery of water, use of any facilities or property, or provision of services. In fixing rates the board may establish reasonable classifications among different classes and conditions of service, but rates shall be the same for similar classes and conditions of service." and

WHEREAS, Subdivision (11) of Section 5 of the County Water Authority Act provides, in part that, the Authority's Board of Directors, "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs;" and

WHEREAS, the Long-Range Financing Plan adopted by the Board of Directors contemplates the establishment of sufficient rates and charges, when considered along with taxes and other revenues of the Authority, to provide revenues for accomplishment of the Authority's purposes and programs as determined by the Board of Directors; and

WHEREAS, pursuant to the County Water Authority Act, the Board of Directors has adopted ordinances and resolutions levying and fixing property taxes, water availability standby charges and other rates and charges for delivery and supply of water, use of facilities and provision of other services by the Authority, including, without limitation, a capacity charge, an infrastructure access charge, a readiness to serve charge and a water rate; and

WHEREAS, under direction of the Board and its Rate Structure Subcommittee, the Authority's staff and consultants have been working with member agencies over the past several years to develop a new rate structure; and

WHEREAS, the Rate Structure Subcommittee has recommended a new structure of rates and charges is designed to ensure that the Authority has sufficient revenue to fulfill its role as the regional wholesale water provider, support local resources development and provide a new class of service for agencies with connections not using Authority facilities; and

WHEREAS, under the new structure of rates and charges, taxes, the water availability standby charge, the infrastructure access charge, and the capacity charge are not affected and will continue as currently levied; and

WHEREAS, under the new structure revenue formerly collected from a uniform water rate for raw and treated water of \$95 per acre foot and a special agricultural water rate of \$80 per acre foot will instead be collected from rates and charges fixed according to four categories called: Customer Service, Storage, Transportation, and Supply; and

WHEREAS, pursuant to Resolution No. 2002-06 adopted May 23, 2002, the Clerk of the Board has caused legal notice of a public hearing to hear objections protests or comments from the public about the proposed new rate structure; and

WHEREAS, the Director of Finance has presented a report dated June 19, 2002 describing the proposed structure of fees and charges, including, without limitation, the revenue requirement, the reasonable allocation of the revenue requirement among the appropriate functional categories, and the reasonable apportionment of revenue requirement allocated to the four functional categories to rates and charges to be collected from the member agencies (the "Report"); and

WHEREAS, the Director of Finance has recommended approval of the new structure of rates and charges as set forth in the Report; and

WHEREAS, on May 21, 2002 the Authority filed a Notice of Exemption pursuant to the California Environmental Quality Act for the project described as "Establishment of water supply and delivery rates and charges including: Customer Service Charge, Emergency Storage Program Charge, Transportation Rate and Supply Service Charge, Capacity Reservation Charge and Readiness-to-Serve Charge, and maintaining the Infrastructure Access Charge and Standby Availability Charge" stating the project is exempt from the requirements of CEQA pursuant to the statutory exemption of Public Resources Code Section 21080(b)(8) and stating as the reason therefore: "Project involves establishment of water rates, tolls, fares, or other charges for the purpose of meeting operating expenses, including employee wages and benefits; purchasing and leasing supplies, equipment, or materials; meeting financial reserve needs and requirements; or obtaining funds for capital projects within existing service areas."; and

WHEREAS, the Board of Directors has considered the information contained in the Report, the testimony and other evidence presented during the public hearing, the recommendations of the Rate Study Subcommittee, the recommendations of the Fiscal Policy Committee, and other information presented to the Board during its consideration of a new rate structure; and

WHEREAS, the Board of Directors hereby makes the following legislative findings and determinations:

1. The foregoing recitals are true and correct;
2. The rates and charges as proposed and recommended in the Report are exempt from the requirements of the California Environmental Quality Act pursuant to Public Resources Code Section 21080(b)(8);
3. Any and all protests to the rates and charges as proposed and recommended in the Report are overruled;
4. The Report is approved;
5. The rates and charges as proposed and recommended in the Report are reasonable, fair, proper and necessary to meet the Authority's revenue requirements and fund its capital, operation, maintenance and other costs.

NOW, THEREFORE, the Board of Directors of the San Diego County Water Authority does ordain as follows:

1. The Authority's revenues from taxes, water rates and charges consists of: ad valorem property taxes, including payments of member agencies in lieu of taxes; a standby availability charge levied pursuant to Section 5.2 of the County Water Authority Act, including payments of such charges pursuant to Section 5.3 of the County Water Authority Act; an infrastructure access charge levied and established pursuant to Resolution No. 98-10; a capacity charge levied pursuant to Section 5.9 of the County Water Authority Act and established by Ordinance No. 97-1 in an amount as amended by Ordinance No. 99-2; and water rates and charges having the following components as described in this ordinance: customer service, storage, transportation and supply.

2. Ad valorem taxes, the standby availability charge and the capacity charge are not affected by this ordinance. All other water rates and charges shall continue to be paid pursuant to existing authority until January 1, 2003.

3. Pursuant to Resolutions Nos. 98-10 and 2001-26, the Infrastructure Access Charge is based on a fixed amount per month per equivalent meter. The current charge of \$1 per month per equivalent meter unit is not changed by this ordinance. Commencing January 1, 2003, the amount of the infrastructure access charge to be paid monthly by each member agencies of the Authority, shall be determined according to Table 1 attached hereto and made a part hereof.

4. Effective January 1, 2003, the Customer Service Charge is fixed at \$13,753,401. Commencing January 1, 2003 the amount of the monthly Customer Service Charge to be paid by each member agency shall be determined according to Table 2 attached hereto and made a part hereof.

5. Effective January 1, 2003, the Storage Charge is fixed at \$13,375,295. Commencing January 1, 2003 the amount of the monthly Storage Charge to be paid by each rate to the Authority for Storage as set forth in Table 3 attached hereto and made a part hereof.

6. Effective January 1, 2003, the Transportation Rate is fixed at \$55 per acre-foot of water delivered by the Authority through Authority facilities. Member agencies shall pay the Transportation Rate in accordance with the procedures and processes of the Administrative Code relating to billing and payment of the Municipal and Industrial Water Rate.

7. (a) Effective January 1, 2003, as a Supply Charge, each member agency shall reimburse the Authority on a per-acre foot of water delivered basis, except as otherwise provided in subdivisions (b) and (c), for rates, fees and charges of the Metropolitan Water District of Southern California.

(b) Effective January 1, 2003 as part of the Supply Charge, each member agency shall pay to the Authority a Capacity Reservation Charge determined according to Table 4 attached hereto and made a part hereof.

(c) Effective July 1, 2002 to January 1, 2003 each member agency shall pay a Readiness-to-Serve Charge determined according to Table 5 attached hereto and made a part hereof, and effective January 1, 2003 as part of the Supply Charge, each member agency shall pay a Readiness-to-Serve Charge determined according to Table 5.

(d) The Authority has apportioned the Capacity Reservation Charge and the Readiness-to-Serve charge to member agency based upon historic water delivery information provided by the Metropolitan water district and historic water delivery information of the Authority. Any member agency, by October 1, 2002, may submit information to the Authority challenging the basis upon which the Capacity Reservation Charge and the Readiness-to-Serve Charge have been allocated. If justified by the information submitted by an agency, the board of directors may adjust the amount charged the agency. The information used to make an adjustment shall be used as the basis for future allocations.

(e) This section shall be administered in accordance with the Report approved by this Ordinance.

8. For the purposes of this ordinance, including the tables, the City of National City and the South Bay Irrigation District are collectively referred to as Sweetwater Authority. Any reference in this ordinance to Sweetwater Authority as a member agency shall be construed as a reference to the City of National City and the South Bay Irrigation District.

9. This ordinance shall be effective upon adoption. In lieu of publication of the text of this ordinance, the Clerk of the Board may publish a summary prepared by the General Counsel.

10. The provisions of this ordinance shall prevail over any provisions of the Administrative Code relating to rates and charges to the extent of any conflict. All existing rates and charges shall continue in effect until superceded on January 1, 2003 as provided in this ordinance.

11. To the greatest extent possible the provisions of this ordinance shall be construed to be compatible with the provisions of Section 8.2 (e) of the Agreement Between the San Diego County Water Authority and the City of San Diego for the Emergency Storage Project (Joint Use of Lake Hodges Dam and Reservoir and of Section 8.2 (e) of the Agreement Between the San Diego County Water Authority and the City of San Diego for the Emergency Storage Project (Expansion of San Vicente Reservoir; however, the contract provisions shall control in the event of a conflict.

12. For the purposes of Section 6 of this ordinance, water delivered by the Authority through the following turnouts is deemed not to be "water delivered by the Authority through Authority facilities" -- DeLuz 1, Fallbrook 3, Fallbrook 6, Rainbow 1, Rainbow 8, Rainbow 9 and Rainbow 10.

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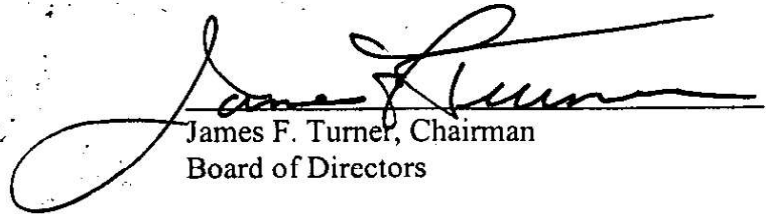
PASSED, APPROVED AND ADOPTED, this 27th day of June 2002.

AYES: Unless noted below all Directors voted aye.

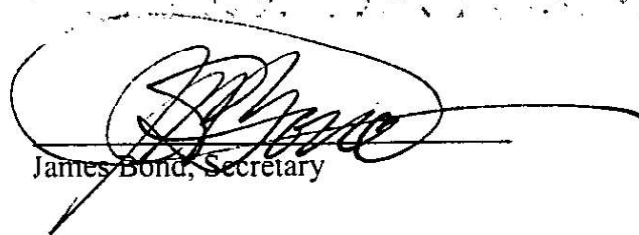
NOES: Broomell,
Knutson, Mason, Quist, Williams

ABSTAIN: Lewinger

ABSENT: Croucher, Haddad, Irvin, Jacob, Lopez, Tu


James F. Turner, Chairman
Board of Directors

ATTEST:


James Bond, Secretary

I, Vernice R. Hartman, Clerk of the Board of the San Diego County Water Authority, do hereby certify that the above and foregoing is a full, true and correct copy of Ordinance No. 2002-03 of said Board and that the same has not been amended or repealed.



Vernice R. Hartman
Clerk of the Board

Table 1. Calendar Year 2003 Infrastructure Access Charge per Member Agency					
Agency	Meters	Per Meter	Months	Annual Charge	Monthly Charge
Carlsbad	30,871	\$ 1	12	\$ 370,452	\$ 30,871
Del Mar	2,485	\$ 1	12	29,820	2,485
Escondido	31,978	\$ 1	12	383,736	31,978
Fallbrook	11,394	\$ 1	12	136,728	11,394
Helix	62,821	\$ 1	12	753,852	62,821
Oceanside	51,171	\$ 1	12	614,052	51,171
Olivenhain	22,263	\$ 1	12	267,156	22,263
Otay	47,699	\$ 1	12	572,388	47,699
Padre Dam	32,258	\$ 1	12	387,096	32,258
Poway	16,835	\$ 1	12	202,020	16,835
Rainbow	13,214	\$ 1	12	158,568	13,214
Ramona	10,120	\$ 1	12	121,440	10,120
Rincon	9,213	\$ 1	12	110,556	9,213
San Diego	369,053	\$ 1	12	4,428,636	369,053
San Dieguito	14,312	\$ 1	12	171,744	14,312
Santa Fe	10,375	\$ 1	12	124,500	10,375
Sweetwater	43,062	\$ 1	12	516,744	43,062
Vallecitos	20,060	\$ 1	12	240,720	20,060
Valley Center	13,628	\$ 1	12	163,536	13,628
Vista	33,302	\$ 1	12	399,624	33,302
Yuima	452	\$ 1	12	5,424	452
Grand Totals	846,566			\$10,158,792	\$ 846,566

Table 2. Customer Service Charge Allocation			
	Fiscal Years 1999 2001 Average Total AF	Customer Service Charge Due \$ 13,753,401	Monthly Charge
Carlsbad M.W.D.	18,760	\$ 467,078	\$ 38,923
Del Mar, City of	1,479	36,827	3,069
Escondido, City of	23,080	574,634	47,886
Fallbrook P.U.D.	15,382	382,970	31,914
Helix W.D.	36,040	897,289	74,774
Oceanside, City of	30,458	758,315	63,193
Olivenhain M.W.D.	18,061	449,668	37,472
Otay W.D.	28,452	708,364	59,030
Padre Dam M.W.D.	20,318	505,851	42,154
Pendleton M.R.	100	2,505	209
Poway, City of	14,231	354,310	29,526
Rainbow M.W.D.	27,455	683,558	56,963
Ramona M.W.D.	10,289	256,164	21,347
Rincon M.W.D.	8,426	209,780	17,482
San Diego, City of	205,582	5,118,420	426,535
San Dieguito W.D.	4,559	113,505	9,459
Santa Fe I.D.	7,339	182,714	15,226
Sweetwater Authority	6,657	165,735	13,811
Vallecitos W.D.	15,472	385,202	32,101
Valley Center M.W.D.	44,114	1,098,318	91,527
Vista I.D.	14,052	349,846	29,154
Yuima M.W.D.	2,102	52,348	4,362
	552,408	\$ 13,753,401	\$ 1,146,117

Note: Values in table contain greater precision than displayed.

Table 3. Storage Charge Allocation

Agency	Fiscal Years 1999-2001 Average Total Non-Agr AF	Calendar Year Storage Charge Due	Monthly Charge
Carlsbad M.W.D.	17,525	\$ 498,514	\$ 41,543
Del Mar, City of	1,479	42,077	3,506
Escondido, City of	18,674	531,208	44,267
Fallbrook P.U.D.	8,132	231,319	19,277
Helix W.D.	36,040	1,025,211	85,434
Oceanside, City of	27,891	793,401	66,117
Olivenhain M.W.D.	16,969	482,722	40,227
Otay W.D.	28,340	806,175	67,181
Padre Dam M.W.D.	19,498	554,646	46,220
Pendleton M.R.	101	2,863	239
Poway, City of	13,748	391,089	32,591
Rainbow M.W.D.	8,192	233,039	19,420
Ramona M.W.D.	7,159	203,654	16,971
Rincon M.W.D.	7,440	211,642	17,637
San Diego, City of	205,441	5,844,092	487,008
San Dieguito W.D.	4,559	129,687	10,807
Santa Fe I.D.	7,208	205,059	17,088
Sweetwater Authority	6,657	189,363	15,780
Vallecitos W.D.	13,092	372,433	31,036
Valley Center M.W.D.	8,669	246,597	20,550
Vista I.D.	13,350	379,777	31,648
Yuima M.W.D.	25	727	61
TOTALS	470,189	\$ 13,375,295	\$ 1,114,608

Note: Values in table contain greater precision than displayed.

Table 4. Capacity Reservation Charge

Agency	Coincident Peak Week Flows (cfs)					Annual CY 2003 Capacity Reservation Charge	Monthly CY 2003 Capacity Reservation Charge
	1997	1998	1999	2000	2001		
	8/12/97	9/1/98	7/20/99	8/29/00	6/26/01		
Carlsbad M.W.D.	26.35	28.06	30.66	31.95	33.86	\$ 237,414	\$ 19,785
Del Mar, City of	2.31	1.81	2.30	2.72	2.85	18,872	1,573
Escondido, City of	63.14	29.32	57.34	57.20	64.20	426,684	35,557
Fallbrook P.U.D.	4.96	5.92	5.97	7.65	5.03	46,457	3,871
Helix W.D.	72.41	64.33	68.80	61.15	74.33	536,530	44,711
Oceanside, City of	76.93	82.66	83.73	91.51	78.44	650,226	54,186
Olivenhain M.W.D.	30.71	32.04	33.48	37.76	34.93	265,755	22,146
Otay W.D.	42.46	47.10	49.63	59.92	56.55	402,241	33,520
Padre Dam M.W.D.	37.82	40.52	39.25	32.33	39.51	298,048	24,837
Pendleton M.R.	0.04	0.04	0.04	0.06	0.04	339	28
Poway, City of	23.80	26.32	24.38	21.69	23.08	187,640	15,636
Rainbow M.W.D.	42.10	43.83	37.47	48.31	47.22	344,459	28,705
Ramona M.W.D.	7.83	8.79	7.43	9.61	9.47	67,851	5,654
Rincon M.W.D.	13.71	16.11	15.68	13.74	13.37	114,256	9,521
San Diego, City of	357.23	278.80	355.24	420.19	440.53	2,913,827	242,819
San Dieguito W.D.	9.04	10.32	9.70	10.05	6.90	72,370	6,031
Santa Fe I.D.	18.10	20.66	19.42	20.12	13.82	144,935	12,078
Sweetwater Authority	-	-	-	-	-	-	-
Vallecitos W.D.	25.14	32.81	37.08	38.32	37.94	269,504	22,459
Valley Center M.W.D.	93.38	93.25	90.71	98.62	94.91	740,836	61,736
Vista I.D.	16.80	15.13	16.99	15.33	17.17	128,107	10,676
Yuima M.W.D.	3.77	3.16	3.43	7.96	6.62	39,249	3,271
TOTALS						\$ 7,905,600	\$ 658,800

Note: Values in table contain greater precision than displayed.

Table 5. Readiness-to-Serve Charge Due from Member Agencies

Agency	Current MWD Allocation Method		New MWD Allocation Method		Total Fiscal Year 2002-2003 RTS	Net Stand-by Charge Credit*	Net Fiscal Year 2002-2003 RTS Charge
	Average Total Deliveries Fiscal Years 94-96 (AF)	RTS Due per MWD July 1 - December 31, 2002	10-yr Average Firm Deliveries	RTS Due January 1 - June 30, 2003			
Carlsbad M.W.D.	14,633	390,962	14,598	\$ 378,978	\$ 769,940	\$ (376,697)	\$ 393,243
Del Mar, City of	1,346	35,954	1,416	36,750	72,704	(32,152)	40,552
Escondido, City of	12,930	345,469	14,119	366,562	712,031	(214,967)	497,063.99
Fallbrook P.U.D.	12,568	335,789	6,866	178,243	514,032	(285,375)	228,657
Helix W.D.	25,427	679,375	30,376	788,609	1,467,984	(721,164)	746,820
Oceanside, City of	25,594	683,833	25,284	656,407	1,340,240	(613,003)	727,237
Olivenhain M.W.D.	12,364	330,330	13,519	350,974	681,304	(400,469)	280,835
Otay W.D.	21,078	563,152	23,587	612,364	1,175,516	(889,466)	286,050
Padre Dam M.W.D.	18,066	482,678	17,866	463,836	946,514	(710,041)	236,473
Pendleton M.R.	103	2,752	100	2,608	5,360	(4,048)	1,312
Poway, City of	10,949	292,529	11,827	307,042	599,571	(291,942)	307,629
Rainbow M.W.D.	22,911	612,149	7,317	189,961	802,110	(547,350)	254,760
Ramona M.W.D.	8,241	220,191	6,171	160,208	380,399	(433,882)	(53,483)
Rincon M.W.D.	6,119	163,489	6,356	165,014	328,503	(310,797)	17,706
San Diego, City of	142,077	3,796,026	166,198	4,314,781	8,110,807	(4,065,507)	4,045,300
San Dieguito W.D.	3,870	103,399	4,035	104,766	208,165	(143,927)	64,238
Santa Fe I.D.	5,979	159,743	6,423	166,741	326,484	(149,199)	177,285
Sweetwater Authority	4,052	108,264	5,522	143,367	251,631	(414,194)	(162,563)
Vallecitos W.D.	12,062	322,279	11,036	286,503	608,782	(393,563)	215,219
Valley Center M.W.D.	34,679	926,556	7,591	197,083	1,123,639	(674,755)	448,884
Vista I.D.	7,298	194,987	10,393	269,818	464,805	(396,521)	68,284
Yuima M.W.D.	932	24,892	29	759	25,651	(84,409)	(58,758)
TOTALS		\$ 10,774,798		\$ 10,141,374	\$ 20,916,172	\$ (12,153,428)	\$ 8,762,744

*Net of MWD Standby Charge Program Administrative Costs of \$175,689.

Note: Values in table contain greater precision than displayed.

Appendix C

FINANCIAL POLICY AMENDMENT

August 16, 2006

Attention: Board of Directors

Adopt the Rate Model Work Group Financial Policy Proposal. (Action)

Purpose

To amend Water Authority financial policies regarding the Rate Stabilization Fund (RSF) and Debt Service Coverage Ratio (DSCR) as recommended by the Rate Model Work Group Proposal and the Administrative and Finance Committee.

Administrative and Finance Committee Recommendation

Adopt the Rate Model Work Group Proposal to amend financial policies regarding the RSF and DSCR.

Fiscal impact

The Rate Model Work Group (RMWG) Proposal will be phased in over a three-year period starting January 1, 2008. The phase-in will require that by June 30, 2011, the RSF have a balance approximately \$10 million higher than the projected balance under the current policy. Starting January 1, 2008, water rates will need to include an additional increase of approximately one percent per year on average for the next three years; however, Infrastructure Access Charges (IAC) will decrease by approximately \$3 per year per meter. Looking out to 2020-2021, the IAC will be approximately \$6 per year per meter lower than projected under current policies, and the average annual increase in the water rate will decrease by approximately 0.40 percent.

Background

In December 2004, the Water Authority created the RMWG to promote financial transparency, to foster member agency relations and to create an open and collaborative process for discussing financial and rate management issues. The RMWG is made up of member agency general managers and finance officers. In 2005, the RMWG's focus centered on understanding the inputs and outputs of the Financial Rate Modeling Program and how these were used to set rates and charges and prepare the Long Range Financing Plan. A workshop was then conducted with the member agencies to share this information. From this process, a list of parking lot items resulted. The analytical work surrounding these items formed the basis of the Proposal currently before the Board.

The Proposal is the result of six months of intensive, collaborative work among RMWG members, staff and Water Authority financial advisors. RMWG members included: Keith Lewinger (Fallbrook); Joe Beachem (Otay); Augie Caires and Doug Wilson (Padre Dam); Tom Brammell (Ramona); Charles Yackly, Christine Ruess and Cathy Pieroni (San Diego); Dennis Bostad and Debra Farrow (Sweetwater); Eldon Boone and Farrokh Shahamiri (Vista); and Linden Burzell (Yuima). The group met six times between January and June 2006. In these meetings, the group analyzed quantitative data related to Water Authority financial risks, reviewed studies of comparable agency financial ratios, evaluated 35 rate runs, identified common interests and barriers regarding policy development, developed and voted on specific recommendations, and drafted the policy recommendations contained in Attachment A. Staff presented the RMWG Proposal at the member agency general managers' meeting on July 18, 2006 and at the quarterly meeting of member agency finance officers on August 3, 2006. Staff

also held a workshop on the RMWG Proposal at a special meeting of the Administrative and Finance Committee on August 10, 2006. At this meeting, by a unanimous vote, the Committee recommended adoption of the RMWG Proposal to the Board.

Previous Board Action: On August 10, 2006, the Administrative and Finance Committee recommended adoption of the RMWG Proposal.

Discussion

The key findings that drove the development of the Proposal are the result of a comprehensive risk analysis (including quantitative hydrologic data) and a comparative analysis of the financial ratios of other AA-rated water agencies. The risk analysis showed not only that hydrologic risk was significant, but also that the existing RSF *minimum* provides only one year of protection against the negative financial impacts of extreme wet weather. The RMWG considered this level of protection to be insufficient and chose to implement a *target* funding level that provides 2.5 years of protection against wet weather. In addition to the risk analysis, the comparative financial analysis revealed that with respect to the three financial ratios of greatest importance to investors and rating agencies, the Water Authority placed below the average of its AA rating category. After analyzing different scenarios and with extensive input from the Water Authority's financial advisor, the RMWG recommended a DSCR policy target of 1.50x.

Attachment A contains the RMWG recommendations relating to the RSF and DSCR policies. In addition to policy statements, the attachment provides edited sections of the Water Authority's Long Range Financing Plan which demonstrate how the policies will be "operationalized." The primary elements of the RMWG Proposal are to:

- Establish a target funding level for the RSF that protects the Water Authority against the financial impact of 2.5 years of wet weather;
- Decrease the maximum funding level for the RSF to protect the Water Authority against the financial impact of 3.5 years of wet weather;
- Phase in the new target funding level of the RSF over three years and replenish any target level deficits over the same time period;
- Provide for the use of RSF funds to pay for O&M and debt service expenses, to smooth water rates and to meet Operating Fund and DSCR targets;
- Establish a separate fund for known, specific future expenses such as dam fills; and
- Establish a target DSCR of 1.50x, which is above the minimum bond covenant of 1.20x.

Benefits of the RMWG Proposal include reduced rate volatility, increased protection against wet weather, a transparent and flexible RSF framework, increased cash funding of the CIP and less outstanding debt. Moreover, the strengthening of key financial ratios—higher debt service coverage ratio, decreased debt ratio and increased cash days—support the maintenance of the Water Authority's AA credit ratings.

Prepared by: Eric Sandler, Deputy Director of Finance

Reviewed by: Karen P. Brust, Director of Finance/Treasurer

Approved by: Paul A. Lanspery, Deputy General Manager

Attachment(s):

Attachment A - Rate Model Work Group Recommended Adjustments to Existing Water Authority Financial Policies

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ATTACHMENT—A
RATE MODEL WORK GROUP RECOMMENDED ADJUSTMENTS TO EXISTING WATER
AUTHORITY FINANCIAL POLICIES RELATED TO THE RATE STABILIZATION FUND AND
DEBT SERVICE COVERAGE

Rate Stabilization Fund Policy Statement

The target funding level for the RSF is equal to the financial loss resulting from 2.5 years of above average rainfall, calculated at a 95% exceedence level. The maximum funding level for the RSF is equal to the financial loss resulting from 3.5 years of above average rainfall.

Transfers from the RSF to the Operating Fund may be made to meet annual O&M expenses, debt service expenses, stabilize water rates or to comply with debt service coverage and operating fund policies. Transfers from the Operating Fund to the RSF will be made as a closing audit adjustment if the Operating Fund maximum balance has been met.

Balances below the RSF target level are to be replenished within three years. The Board may also choose to budget for RSF deposits resulting in balances in excess of the target level but below the maximum level to provide for rate smoothing. The RSF is managed so that any funds above the maximum balance will be transferred to the Operating Fund—Operating Fund balances above the existing 45-day policy are subject to discretionary use by the Board.

Funds committed to specific future non-operating expenditures such as dam fills or QSA water pre-payments will be set-aside in either the Dam Fill Fund or QSA Commitment Fund.

Rate Stabilization Fund

Red-lined text from Water Authority's Long Range Financing Plan for fiscal year 2004-2005

The Rate Stabilization Fund (RSF) was created in Fiscal Year 1989-1990 for the purpose of collecting amounts of water revenues greater than expenditures in years of strong water sales. Funds can then be used to mitigate "rate shock" in years of weak water sales ~~and/or~~ to manage debt service coverage, or to smooth out water rate increases. The RSF is a critical short-term water rate management tool that provides the necessary funds to maintain a smooth water rate pattern over a long period of time. With the new melded supply rate, and the expansion of the Water Authority's functional areas with treatment and desalination, the RSF will have an increasingly important role in managing hydrology risk and stabilizing annual revenue needs.

~~The RSF has served the Water Authority well since it was created, providing a vehicle that collected approximately \$60 million in the first three years of its existence. Revenues greater than expenditures were generated in those years from strong water sales during the drought, combined with relatively low debt service requirements because major funding for the CIP was just beginning. In Fiscal Year 1994-1995, approximately \$6 million was withdrawn from the RSF to supplement operating revenues and mitigate the need for water rates to rise above \$80 per acre foot. A transfer of \$10 million was made from the RSF to the Operating Fund, as directed by the Board in Fiscal Year 1996-1997, to more efficiently balance Rate Stabilization and Operating Funds. The RSF will supply approximately \$10 million in water purchases for the Olivenhain reservoir in Fiscal Year 2003-2004. In addition, in Fiscal Year 2003-2004, \$10 million of this fund has been placed in restricted investments to fund the IID socioeconomic payment obligation. As a part of the Long Range Financing Plan process, a "QSA Commitment Fund" will be established to recognize that these restricted investments are no longer available for rate stabilization purposes. The RSF is anticipated to have an ending balance of \$55.7 million (inclusive of the remaining \$8 million in IID restricted investments), and a permitted maximum balance of \$86.1 million at the close of Fiscal Year 2003-2004.~~

~~For long range financial planning purposes, Board policy requires that the~~ sets a target funding level for the RSF ~~be maintained at a minimum balance of at least 25 percent of the Water Authority's net water sales revenue, defined as total Water Authority water sales revenue less Water Authority water purchases from Metropolitan Water District. The RSF also has a maximum balance of 100 percent of the average annual water sales projected over the proceeding four years.~~ equal to the financial loss resulting from 2.5 years of above average rainfall, calculated at a 95% exceedence level. Additionally, it establishes a maximum funding level equal to the financial loss resulting from 3.5 years of above average rainfall. ~~The four year forward rolling average allows the RSF to gradually increase or decrease with respect to revenue coverage needs.~~ Defining the target and maximum funding levels of the RSF in terms of the financial impact of above average rainfall matches the size of the fund to the primary risk it is designed to mitigate and provides additional capacity for rate smoothing.

~~As a general rule, the Water Authority will transfer portions of its net water revenues not required to meet either its debt service coverage ratio requirement or operating fund requirement into the RSF. The Board may choose to budget for RSF deposits resulting in balances in excess of the target level but not in excess of the maximum level for the purposes of rate smoothing. Balances below the target level are to be replenished within three years. As necessary, the Water Authority will transfer amounts from its RSF into net water revenues to meet its debt service coverage requirements, Operating Fund requirements or to smooth rate increases. Interest earnings accrue to the~~ Rate Stabilization Fund RSF ~~unless the maximum balance is achieved, at which point they will be deposited into the Operating Fund. The RSF is managed so that~~ any funds above the maximum balance will be transferred to the Operating Fund— ~~Operating Fund balances above the existing 45-day policy are subject to discretionary use by the Board~~ deposits are not made into the fund if the fund is at its maximum permitted balance.

~~In Fiscal Year 2003-2004, \$10 million of the RSF was placed in restricted investments to fund the IID socioeconomic payment obligation. As a part of the Long-Range Financing Plan process, a "QSA Commitment Fund" was established to recognize that these balances are no longer available for rate stabilization purposes. Similarly, funds committed to specific future non-operating expenditures such as dam fills or QSA water pre-payments are to be set aside in the Dam Fill Fund or the QSA Commitment Fund. Planned non-operating expenditures in the future include San Vicente and Lake Hodges dam fill payments scheduled for 2012-2016 and a QSA Water Prepayment due in 2008.~~

~~The RSF was created to provide funds that would mitigate the need for an unanticipated rate increase in the event of an unexpected decline in water sales. As a result, the RSF is a critical short term water rate management tool that provides the necessary funds to maintain a smooth water rate pattern over a long period of time.~~

~~With the new melded supply rate, and the expansion of the Water Authority's functional areas with treatment and desalination, the RSF will have an increasingly important role in stabilizing annual revenue needs.~~

Debt Service Coverage Policy Statement

The Board will set rates to meet a senior lien debt service coverage target inclusive of RSF transfers of 1.50x as well as a senior lien debt service coverage target (excluding capacity charge revenues) of 1.00x. The 1.50x senior lien debt service coverage target is above the existing 1.20x bond covenant.

Debt Service Coverage

Red-lined text from Water Authority's Long Range Financing Plan for fiscal year 2004-2005

Debt service coverage is another key constraint in the FRMP, and is mandated by the legal documents that govern the Water Authority's outstanding debt issues. The Water Authority's debt service coverage covenants require that the Water Authority's net operating revenues, defined as operating revenues less operations and maintenance expenditures, equal a minimum of 120 percent of debt service on senior lien debt. The Water Authority has also covenanted to provide gross revenues of at least 100 percent of debt service on all Water Authority obligations.

Senior lien refers to debt that has a legal first priority repayment after the Water Authority first pays its operations and maintenance expenditures. At the present time, all of the Water Authority's outstanding fixed-rate debt is senior lien debt.-

~~The projected senior lien debt service ratio, and overall debt service ratio are presented in Figures 53 and 54 respectively.~~ The obligations that are subject to the 100 percent debt service coverage requirement consist of all Water Authority obligations, including operations and maintenance expenditures, long-term debt service, short-term debt service and any other obligations (e.g., leases, contracts, etc.)

In addition to the 120 percent and 100 percent requirements, the Water Authority has the ability to issue an intermediate lien that would require 110 percent coverage after the payment of senior lien obligations. The Water Authority currently has no intermediate lien obligations outstanding and no plan to issue such debt.

Highly-rated water utilities generally have actual debt service coverage ratios in excess of the their legal obligations. The maintenance of the Water Authority's high credit ratings requires debt service coverage ratios that generally exceed the minimum requirement. Though not a legal commitment, the Board has established that inclusive of RSF transfers, the Water Authority will maintain senior lien debt service coverage of 150% and senior lien debt service coverage of 100% after excluding capacity charge revenues.

Appendix D
GENERAL RESOLUTION 89-91
(WITH AMENDMENTS)

SAN DIEGO COUNTY WATER AUTHORITY

RESOLUTION NO. 89-21

A Resolution of the Board of Directors of the
San Diego County Water Authority Providing
for the Allocation of Water System Revenues
and Establishing Covenants to Secure the
Payment of Obligations Payable from Net Water
Revenues

(General Resolution)

Adopted May 11, 1989

TABLE OF CONTENTS

	<u>Page</u>
RECITALS	1
ARTICLE I DEFINITIONS	
SECTION 1.01. Definitions	1
ARTICLE II WATER REVENUES	
SECTION 2.01. Establishment of Funds	11
SECTION 2.02. Allocation of Water Revenues	11
SECTION 2.03. Rate Stabilization Fund	12
SECTION 2.04. Installment Payment Fund	13
SECTION 2.05. Subordinate Obligation Payment Fund	13
SECTION 2.06. General Reserve Fund	13
ARTICLE III BONDS AND CONTRACTS; OBLIGATIONS	
SECTION 3.01. 1989 Installment Sale Agreement; 1989 Contract of Indebtedness	13
SECTION 3.02. Additional Bonds and Contracts	13
SECTION 3.03. Obligations	15
ARTICLE IV COVENANTS OF THE AUTHORITY	
SECTION 4.01. Against Encumbrances	15
SECTION 4.02. Against Sale or Other Disposition of Property	16
SECTION 4.03. Maintenance and Operation of the Water System; Budgets	16
SECTION 4.04. Compliance with Contracts	16
SECTION 4.05. No Superior Liens	16
SECTION 4.06. Insurance	17
SECTION 4.07. Accounting Records and Financial Statements	17
SECTION 4.08. Payment of Taxes and Compliance with Governmental Regulations	18
SECTION 4.09. Amount of Rates, Fees and Charges	18
SECTION 4.10. Collection of Rates, Fees and Charges ...	18
SECTION 4.11. Eminent Domain and Insurance Proceeds ...	19

ARTICLE V
MISCELLANEOUS

SECTION 5.01.	Benefits of Resolution Limited to Parties	19
SECTION 5.02.	Successor Is Deemed Included in all References to Predecessor	19
SECTION 5.03.	Article and Section Headings, Gender and References	19
SECTION 5.04.	Partial Invalidity	20
SECTION 5.05.	Funds	20
SECTION 5.06.	Investments	20
SECTION 5.07.	Repeal of Inconsistent Resolutions	20
SECTION 5.08.	Effective Date	20
EXECUTION		21

SAN DIEGO COUNTY WATER AUTHORITY

RESOLUTION NO. 89-21

A Resolution of the Board of Directors of the San Diego County Water Authority Providing for the Allocation of Water System Revenues and Establishing Covenants to Secure the Payment of Obligations Payable from Net Water Revenues

(General Resolution)

WHEREAS, the San Diego County Water Authority owns and operates the Water System;

WHEREAS, the Authority expects to issue Bonds and enter into Contracts, including the 1989 Installment Sale Agreement and the 1989 Contract of Indebtedness, the obligations of the Authority under which will be payable from Net Water Revenues;

WHEREAS, the Authority now desires to provide for the allocation of revenues of the Water System; and

WHEREAS, the Authority also desires to establish covenants to secure the payment of obligations payable from Net Water Revenues;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE SAN DIEGO COUNTY WATER AUTHORITY AS FOLLOWS:

ARTICLE I

DEFINITIONS

SECTION 1.01. Definitions. Unless the context otherwise requires, the terms defined in this section shall for all purposes hereof and of any amendment hereof or supplement hereto and of any opinion or report or other document mentioned herein or therein have the meanings defined herein, the following definitions to be equally applicable to both the singular and plural forms of any of the terms defined herein:

Accreted Value

"Accreted Value" means, with respect to any Capital Appreciation Bonds or Capital Appreciation Certificates, as of

the date of calculation, the initial amount thereof plus the interest accrued thereon to such date of calculation, compounded from the date of initial delivery at the approximate interest rate thereof on each semiannual date specified with respect thereto, as determined in accordance with the table of accreted values for any Capital Appreciation Bonds or Capital Appreciation Certificates prepared by the Authority at the time of sale thereof, assuming in any year that such Accreted Value increases in equal daily amounts on the basis of a year of three hundred sixty (360) days composed of twelve (12) months of thirty (30) days each.

Accreted Value Payment Date

"Accreted Value Payment Date" means any Installment Payment Date on which Accreted Value is payable.

Authority

"Authority" means the San Diego County Water Authority, a county water authority duly organized and existing under and by virtue of the laws of the State of California.

Bond or Contract Reserve Fund

"Bond or Contract Reserve Fund" means any debt service reserve fund established to secure the payment of Bond Payments or Installment Payments.

Bond Payments

"Bond Payments" means the principal and interest payments scheduled to be paid by the Authority on Bonds.

Bonds

"Bonds" means all revenue bonds of the Authority authorized, executed, issued and delivered by the Authority under and pursuant to applicable law, the interest and principal and redemption premium, if any, payments under and pursuant to which are payable from Net Water Revenues on a parity with all other Bonds and Contracts.

Capital Appreciation Bonds

"Capital Appreciation Bonds" means any Bonds described as such when issued.

Capital Appreciation Certificates

"Capital Appreciation Certificates" means any certificates of participation in Installment Payments described as such when issued.

Certificate of the Authority

"Certificate of the Authority" means an instrument in writing signed on behalf of the Authority by the Chairman of the Board of Directors of the Authority, or by any other officer of the Authority duly authorized by the Board of Directors of the Authority to sign documents on its behalf with respect to the matters referred to therein.

Certificates

"Certificates" means any certificates of participation representing interests in payments to be made by the Authority pursuant to Leases, Installment Sale Agreements or Contracts of Indebtedness.

Contract Payments

"Contract Payments" means the contract payments scheduled to be paid by the Authority under and pursuant to Contracts of Indebtedness.

Contracts

"Contracts" means all Installment Sale Agreements, Leases and Contracts of Indebtedness.

Contracts of Indebtedness; 1989 Contract of Indebtedness

"Contracts of Indebtedness" means contracts of indebtedness or similar obligations of the Authority authorized and executed by the Authority under and pursuant to applicable law, the interest and principal payments under and pursuant to which are payable from Net Water Revenues on a parity with all other Contracts and Bonds. "1989 Contract of Indebtedness" means the contract of indebtedness by and between the Authority and Security Pacific National Bank, dated as of May 1, 1989, as originally executed and as it may from time to time be amended or supplemented and which constitutes a Contract of Indebtedness hereunder.

Current Water Revenues

"Current Water Revenues" means all gross income and revenue received or receivable by the Authority from the

ownership or operation of the Water System, determined in accordance with Generally Accepted Accounting Principles, including all rates, fees and charges (including connection fees and charges and standby charges) received by the Authority for the Water Service and the other services of the Water System and all other income and revenue howsoever derived by the Authority from the ownership or operation of the Water System or arising from the Water System, and also including (1) all income from the deposit or investment of any money in the Water Revenue Fund, the General Reserve Fund and the Rate Stabilization Fund, and (2) all income from the deposit or investment of money held in the Installment Payment Fund, the Subordinate Obligation Fund or any Bond or Contract Reserve Fund or other fund established pursuant to a Trust Agreement to the extent such income will be available to pay Bond Payments or Installment Payments, but excluding any proceeds of taxes and any refundable deposits made to establish credit and advances or contributions in aid of construction.

Debt Service

"Debt Service" means, for any Fiscal Year or other period, the sum of (1) the interest accruing during such Fiscal Year or period on all outstanding Bonds, assuming that all outstanding serial Bonds are retired as scheduled and that all outstanding term Bonds are redeemed or paid from sinking fund payments as scheduled, (2) that portion of the principal amount of all outstanding serial Bonds maturing on the next succeeding principal payment date that would have accrued during such Fiscal Year or period if such principal amount were deemed to accrue daily in equal amounts from the next preceding principal payment date or during the year preceding the first principal payment date, as the case may be, (3) that portion of the principal amount of all outstanding term Bonds required to be redeemed or paid on the next succeeding redemption date (together with the redemption premiums, if any, thereon) that would have accrued during such Fiscal Year or period if such principal amount (and redemption premiums) were deemed to accrue daily in equal amounts from the next preceding redemption date or during the year preceding the first redemption date, as the case may be, and (4) that portion of the Installment Payments required to be made at the times provided in the Contracts that would have accrued during such Fiscal Year or period if such Installment Payments were deemed to accrue daily in equal amounts from, in each case, the next preceding Installment Payment Date of interest or principal or the date of the pertinent Contract, as the case may be; provided, that (a) if any of such Bonds are Capital Appreciation Bonds or if the Installment Payments due under any of such Contracts are evidenced by Capital Appreciation

Certificates, then the Accreted Value payment shall be deemed due on the scheduled redemption or payment date of such Capital Appreciation Bond or Capital Appreciation Certificate; (b) if any of such Bonds or if the Installment Payments due under any such Contracts bear interest payable pursuant to a variable interest rate formula, the interest rate on such Bonds or such Contracts for periods when the actual interest rate cannot yet be determined, shall be assumed to be equal to the greater of (1) the current interest rate calculated pursuant to the provisions of the terms of such Bonds or Contracts (with respect to the issuance of Bonds or the execution of Contracts pursuant to Section 3.02, the initial interest rate on such Bonds or Contracts), or, (2) if available, the average interest rate on such Bonds or Contracts during the thirty-six (36) months preceding the date of calculation or, (3) if such Bonds or Contracts have not been outstanding for such thirty-six month period (or with respect to the issuance of Bonds or the execution of Contracts pursuant to Section 3.02), such average interest rate on comparable debt of a state or political subdivision of a state which debt is then rated by the rating agencies rating such Bonds or Contracts in a rating category equivalent to the rating on such Bonds or Contracts; and (c) if 20% or more of the original principal of such Bonds or the Installment Payments due under such Contracts is not due until the final stated maturity of such Bonds or the Installment Payments due under such Contracts, such principal may, at the option of the Authority, be treated as if it were due based upon a level amortization of such principal over the term of such Bonds or Contracts or twenty (20) years, whichever is greater; provided further, that "Debt Service" shall not include (1) payments due on voter-approved general obligation bonds and other voter-approved general obligation debts for which taxes are then being levied and collected or (2) interest on Bonds or Contracts which are to be paid from amounts constituting capitalized interest held pursuant to a Trust Agreement.

Director of Finance

"Director of Finance" means the Director of Finance of the Authority or its successor designated by the Board of Directors of the Authority.

Fiscal Year

"Fiscal Year" means the period beginning on July 1 of each year and ending on the next succeeding June 30, or any other annual accounting period hereafter selected and designated by the Board of Directors of the Authority as the Fiscal Year of the Authority.

General Reserve Fund

"General Reserve Fund" means the fund by that name established pursuant to Section 2.01.

Generally Accepted Accounting Principles

"Generally Accepted Accounting Principles" means the uniform accounting and reporting procedures set forth in publications of the American Institute of Certified Public Accountants or its successor, or by any other generally accepted authority on such procedures, and includes, as applicable, the standards set forth by the Governmental Accounting Standards Board or its successor.

Installment Payment Date

"Installment Payment Date" means any date on which Bond Payments or Installment Payments are scheduled to be paid by the Authority under and pursuant to any Contract or Bonds.

Installment Payment Fund

"Installment Payment Fund" means the fund by that name established pursuant to Section 2.01.

Installment Payments

"Installment Payments" means Contract Payments, Installment Sale Payments or Lease Payments.

Installment Sale Agreements; 1989 Installment Sale Agreement

"Installment Sale Agreements" means installment sale agreements or similar obligations of the Authority authorized and executed by the Authority under and pursuant to applicable law, the interest and principal payments under and pursuant to which are payable from Net Water Revenues on a parity with all other Contracts and Bonds. "1989 Installment Sale Agreement" means the installment sale agreement by and between the Authority and Security Pacific National Bank, dated as of May 1, 1989, as originally executed and as it may from time to time be amended or supplemented and which constitutes an Installment Sale Agreement hereunder.

Installment Sale Payments

"Installment Sale Payments" means the installment sale or other periodic payments scheduled to be paid by the Authority under and pursuant to Installment Sale Agreements.

Interest Payment Date

"Interest Payment Date" means an Installment Payment Date on which interest is payable.

Law

"Law" means the County Water Authority Act, being California Water Code Appendix, Sections 45-1 et seq., and all laws amendatory thereof or supplemental thereto.

Lease Payments

"Lease Payments" means the rental payments scheduled to be paid by the Authority under and pursuant to Leases.

Leases

"Leases" means capital leases or similar obligations of the Authority authorized and executed by the Authority under and pursuant to applicable law, the interest and principal payments under and pursuant to which are payable from Net Water Revenues on a parity with the payment of all other Contracts and Bonds.

Maintenance and Operation Costs

"Maintenance and Operation Costs" means all costs paid or incurred by the Authority for maintaining and operating the Water System, determined in accordance with Generally Accepted Accounting Principles, including all costs of water purchased by the Authority for resale, and including all expenses of management and repair and other expenses necessary to maintain and preserve the Water System in good repair and working order, and including all administrative costs of the Authority, such as salaries and wages of employees, overhead, taxes (if any) and insurance premiums, and including all other costs of the Authority or charges required to be paid by it to comply with the terms hereof or of any resolution authorizing the execution of any Contract or of such Contract or of any resolution authorizing the issuance of any bonds or of such bonds, such as compensation, reimbursement and indemnification of the trustee for any such Contracts or bonds and fees and expenses of Independent Certified Public Accountants; but excluding in all cases (1) depreciation, replacement and obsolescence charges or reserves therefor and amortization of intangibles, premiums and discounts, (2) interest expense and (3) amounts paid from other than Water Revenues (including, but not limited to, amounts paid from the proceeds of ad valorem property taxes).

Maximum Annual Debt Service

"Maximum Annual Debt Service" means the greatest total Debt Service payable in any Fiscal Year during the period commencing with the next ensuing Fiscal Year and terminating with the Fiscal Year in which payments are due under the last outstanding Bonds or the last outstanding Contract, whichever is later.

Monthly Accrued Debt Service

"Monthly Accrued Debt Service" means, with respect to any month, an amount equal to the sum of Debt Service with respect to all Bonds and Contracts accrued and to accrue to the end of such month; provided, in calculating the amount of Monthly Accrued Debt Service (i) Accreted Value with respect to Capital Appreciation Bonds and Capital Appreciation Certificates shall be deemed to accrue over the twelve-month period immediately preceding the scheduled redemption or prepayment date of such Capital Appreciation Bond or Capital Appreciation Certificate, (ii) the adjustment to principal described in provision (c) of the definition of Debt Service shall not be made and (iii) if the interest on any Bonds or Installment Payments due under any Contract bear interest payable pursuant to a variable rate formula, the amount of interest deemed to accrue during any period shall be the actual interest borne by such Bonds or Installment Payments during such period.

Net Water Revenues

"Net Water Revenues" means, for any Fiscal Year or other period, the Water Revenues during such Fiscal Year or period less the Maintenance and Operation Costs during such Fiscal Year or period.

Obligation

"Obligation" means any contract or lease for the purchase of any facilities, properties, structures, or works, or any loan of credit to or guaranty of debts, claims or liabilities of any other person for the purpose of obtaining any facilities, properties, structures or works, the final payments under which are due more than five years following the effective date thereof, so long as in each case the payments thereunder are to constitute Maintenance and Operations Costs.

Opinion of Counsel

"Opinion of Counsel" means a written opinion of counsel of national representation generally recognized to be

well qualified in the field of law relating to municipal bonds, retained by the Authority.

Outstanding

"outstanding" means with respect to any Bonds or Contracts, Bonds or Contracts the payment obligations of the Authority under which are not deemed paid in accordance with the terms of such Bonds or Contracts or applicable Trust Agreement.

Principal Payment Date

"Principal Payment Date" means any Installment Payment Date on which principal is payable.

Rate Stabilization Fund

"Rate Stabilization Fund" means the fund by that name established pursuant to Section 2.01.

Reimbursement Agreement

"Reimbursement Agreement" means an agreement between the Authority and a bank or financial institution providing for the issuance of a letter of credit, reserve fund insurance policy, guaranty or surety bond for the purpose of making Bond Payments or Installment Payments and requiring the Authority to make payments to reimburse or compensate such bank or financial institution for draws under such instruments from Net Water Revenues on a parity with all Contracts and Bonds.

Reimbursement Payments

"Reimbursement Payments" means amounts payable by the Authority as compensation or reimbursement for a draw on a letter of credit, reserve fund insurance policy, guaranty or surety bond for the purpose of making Bond Payments or Installment Payments in accordance with any Reimbursement Agreement.

Subordinate Obligation Payment Fund

"Subordinate Obligation Payment Fund" means the fund by that name established pursuant to Section 2.01.

Subordinate Obligation Payments

"Subordinate Obligation Payments" means the payments scheduled to be paid by the Authority under and pursuant to Subordinate Obligations.

Subordinate Obligations

"Subordinate Obligations" means obligations of the Authority authorized and executed by the Authority under applicable law, the interest and principal payments under and pursuant to which are payable from Net Water Revenues, from the Subordinate Obligation Payment Fund, subject and subordinate to Bond Payments and Installment Payments.

Trust Agreement

"Trust Agreement" means any indenture or trust agreement providing for the issuance of Bonds or Certificates.

Trustee

"Trustee" means the trustee under any Trust Agreement.

Water Revenue Fund

"Water Revenue Fund" means the San Diego County Water Authority Water Revenue Fund established pursuant to Section 2.01.

Water Revenues

"Water Revenues" means Current Water Revenues plus deposits to the Water Revenue Fund from amounts on deposit in the Rate Stabilization Fund, but only as and to the extent specified in Section 2.03, less amounts transferred to the Rate Stabilization Fund.

Water Service

"Water Service" means the water service furnished, made available or provided by the Water System.

Water System

"Water System" means all property rights, contractual rights and facilities of the Authority, including all facilities for the conservation, storage, transmission and distribution of water and the generation and delivery of hydroelectric power in connection therewith now owned by the Authority and all other properties, structures or works for the conservation, storage, transmission and distribution of water and the generation and delivery of hydroelectric power in connection therewith hereafter acquired and constructed by or for the Authority and determined by the Authority to be a part of the Water System; together with all additions,

betterments, extensions or improvements to such facilities, properties structures or works or any part thereof hereafter acquired and constructed.

ARTICLE II

WATER REVENUES

SECTION 2.01. Establishment of Funds. The Authority hereby establishes and agrees to maintain, so long as any Bonds, Certificates or Subordinate Obligations remain outstanding, the following funds, each such fund to be held by the Director of Finance:

- (1) Rate Stabilization Fund;
- (2) Water Revenue Fund;
- (3) Installment Payment Fund;
- (4) Subordinate Obligation Payment Fund; and
- (5) General Reserve Fund.

Amounts in such funds shall be disbursed, allocated and applied solely to the uses and purposes hereinafter in this article set forth, and shall be accounted for separately and apart from all other accounts, funds, money or other resources of the Authority. The Authority will only have such beneficial right or interest in such money as is provided herein.

SECTION 2.02. Allocation of Water Revenues. In order to carry out and effectuate the obligations of the Authority to make Bond Payments, Installment Payments, Reimbursement Payments and Subordinate Obligation Payments, the Authority agrees and covenants that all Current Water Revenues received by it shall be deposited when and as received in the Water Revenue Fund. The Authority may, to the extent provided in Section 2.03, transfer amounts in the Water Revenue Fund to the Rate Stabilization Fund or from the Rate Stabilization Fund to the Water Revenue Fund.

The Authority shall pay all Maintenance and Operation Costs (including amounts reasonably required to be set aside in contingency reserves for Maintenance and Operation Costs the payment of which is not then immediately required) from the Water Revenue Fund as they become due and payable, and all remaining money on deposit in the Water Revenue Fund shall be set aside and deposited or transferred

by the Authority, as the case may be, at the following times in the following order of priority:

(a) Installment Payment Fund. On or before the last business day of each month, beginning in May, 1989, the Authority shall deposit in the Installment Payment Fund, a sum equal to the Monthly Accrued Debt Service for such month, plus a sum equal to all Reimbursement Payments then due and payable; provided that no such deposit need be made if amounts on deposit in the Installment Payment Fund equal the amount of Bond Payments or Installment Payments due with respect to all Bonds and Contracts on the next succeeding Interest Payment Date (with respect to interest), Principal Payment Date (with respect to principal) and Accreted Value Payment Date (with respect to Accreted Value) for such Bonds or Contract, and the Reimbursement Payments then due and payable.

(b) Bond or Contract Reserve Funds. On or before the last business day of each month, the Authority shall transfer to each Trustee for deposit in the applicable Bond or Contract Reserve Fund an amount equal to the amount, if any, required to be deposited therein to build up or replenish such Bond or Contract Reserve Fund as and to the extent required by the applicable Contract or Trust Agreement.

(c) Subordinate Obligation Payment Fund. On or before the last business day of each month, the Authority shall deposit in the Subordinate Obligation Payment Fund the sum or sums required to be deposited under or pursuant to the indenture, trust agreement or other instrument securing each Subordinate Obligation.

(d) Subordinate Obligation Reserve Funds. On or before the last business day of each month, the Authority shall transfer to each trustee with respect to Subordinate Obligations for deposit in the debt service reserve fund with respect to such Subordinate Obligations an amount equal to the amount, if any, required to be deposited therein to build up or replenish such debt service reserve fund as and to the extent required by the applicable Subordinate Obligation or the indenture, trust agreement or other instrument securing such Subordinate Obligation.

(e) General Reserve Fund. On the last business day of each month, the Authority shall, after making each of the foregoing deposits and transfer, transfer all money remaining in the Water Revenue Fund to the General Reserve Fund.

SECTION 2.03. Rate Stabilization Fund. From time to time the Authority may deposit in the Rate Stabilization Fund from Current Water Revenues such amounts as the Authority

shall determine. All amounts transferred by the Authority from the Rate Stabilization Fund to the Water Revenue Fund shall be used by the Authority solely to pay Maintenance and Operation Costs. All interest or other earnings upon deposits in the Rate Stabilization Fund shall be withdrawn therefrom and accounted for as Current Water Revenues.

SECTION 2.04. Installment Payment Fund. The Authority may withdraw amounts from the Installment Payment Fund solely for the purpose of paying Bond Payments, Installment Payments and Reimbursement Payments at the times and in the amounts required by applicable Bonds, Contracts, Trust Agreements and Reimbursement Agreements.

SECTION 2.05. Subordinate Obligation Payment Fund. The Authority may withdraw amounts from the Subordinate Obligation Fund solely for the purpose of paying or providing for the payment of Subordinate Obligation Payments at the times and in the amounts required by applicable Subordinate Obligations or trust agreement or indenture securing such Subordinate Obligations.

SECTION 2.06. General Reserve Fund. The Authority may withdraw money in the General Reserve Fund for any lawful purpose of the Authority except to make transfers to the Rate Stabilization Fund.

ARTICLE III

BONDS AND CONTRACTS; OBLIGATIONS

SECTION 3.01. 1989 Installment Sale Agreement; 1989 Contract of Indebtedness. (a) The Authority may execute the 1989 Installment Sale Agreement and the 1989 Contract of Indebtedness without the necessity of complying with Section 3.02.

(b) The Authority may not execute any amendment to the 1989 Installment Sale Agreement or the 1989 Contract of Indebtedness if such amendment would increase the amount of Installment Payments thereunder; provided, the Authority may execute such an amendment if the requirements of Section 3.02 will be satisfied in connection therewith.

SECTION 3.02. Additional Bonds and Contracts. The Authority may at any time issue any Bonds the payments under and pursuant to which or execute any Contract the Installment Payments under and pursuant to which, as the case may be, are payable from the Net Water Revenues on a parity with the 1989 Installment Sale Agreement, the 1989 Contract of Indebtedness and all other Contracts and Bonds; provided:

(a) For any period of twelve (12) consecutive calendar months within the twenty-four (24) calendar month period ending on the last day of the month preceding the date of issuance of such Bonds or execution of such Contract, as evidenced by a Certificate of the Authority (together with supporting calculations prepared by the Authority) to the effect that (1) the Net Water Revenues shall have been equal to at least one hundred twenty per cent (120%) of the Maximum Annual Debt Service on all Bonds and Contracts outstanding after the issuance of such Bonds or the execution of such Contract, as the case may be, and (2) the Net Water Revenues shall have been sufficient for the payment of all amounts payable from Net Water Revenues during such twelve-month period and at least equal to one hundred twenty percent (120%) of Debt Service on all Bonds and Contracts outstanding during such twelve-month period, or

(b) (i) For any period of twelve (12) consecutive calendar months within the twenty-four (24) calendar month period ending on the last day of the month preceding the date of issuance of such Bonds or the execution of such Contract, as evidenced by a Certificate of the Authority (together with supporting calculations prepared by the Authority) to the effect that the Net Water Revenues shall have been sufficient for the payment of all amounts payable from Net Water Revenues during such twelve-month period and at least equal to one hundred twenty percent (120%) of Debt Service on all Bonds and Contracts outstanding during such twelve-month period, and

(ii) As evidenced by a Certificate of the Authority (together with supporting calculations and assumptions prepared by the Authority) to the effect that, in each of the five succeeding Fiscal Years, projected Net Water Revenues shall be sufficient for the payment of all amounts to be payable from Net Water Revenues in each such Fiscal Year and at least equal to one hundred twenty percent (120%) of Debt Service on all Bonds and Contracts to be outstanding in each such Fiscal Year, and

(c) The Authority shall file a Certificate of the Authority to the effect that the Authority is not then in default under any Trust Agreement or with respect to any Bonds or Contracts; and with each Trustee

(d) Such Bond or Contract shall not allow the declaration of Bond Payments or Installment Payments

thereunder to be immediately due and payable in the event of a default by the Authority thereunder or under the applicable Trust Agreement unless such remedy is then allowed with respect to all Bonds and Contracts then outstanding.

Notwithstanding the foregoing provisions, there shall be no limitations on the ability of the Authority to execute any Contract or to issue any Bonds at any time to refund any outstanding Bonds or any outstanding Contract or to execute Reimbursement Agreements.

SECTION 3.03. Obligations. Amounts to be paid by the Authority with respect to any Obligation shall constitute Maintenance and Operation Costs only if at the time such Obligation is entered into the Authority shall deliver a Certificate of the Authority to the effect that (i) the making of payments on such Obligation as Maintenance and Operation Costs will not impair the Authority's ability to comply with the covenant set forth in Section 4.09 hereof during the next five Fiscal Years or five years beyond the commercial operation date of the project being financed with such Obligation, whichever is later and (ii) the properties, services or commodities to be furnished pursuant to such Obligation can be economically and beneficially utilized by the Authority. If the amounts to be paid by the Authority for an Obligation do not constitute Maintenance and Operation Costs, then such amounts shall be paid out of the Subordinate Obligation Payment Fund or the General Reserve Fund.

ARTICLE IV

COVENANTS OF THE AUTHORITY

SECTION 4.01. Against Encumbrances. The Authority will pay or cause to be paid when due all sums of money that may become due or purporting to be due for any labor, services, materials, supplies or equipment furnished, or alleged to have been furnished, to or for the Authority in, upon, about or relating to the Water System and will keep the Water System free of any and all liens against any portion of the Water System. In the event any such lien attaches to or is filed against any portion of the Water System, the Authority will cause each such lien to be fully discharged and released at the time the performance of any obligation secured by any such lien matures or becomes due, except that if the Authority desires to contest any such lien it may do so. If any such lien shall be reduced to final judgment and such judgment or any process as may be issued for the enforcement thereof is not promptly stayed, or if so stayed and such stay

thereafter expires, the Authority will forthwith pay or cause to be paid and discharged such judgment.

SECTION 4.02. Against Sale or Other Disposition of Property. The Authority will not sell, lease or otherwise dispose of the Water System or any part thereof essential to the proper operation of the Water System or to the maintenance of the Net Water Revenues, and will not enter into any agreement or lease which would impair the operation of the Water System or any part thereof necessary to secure adequate Net Water Revenues for the payment of Bond Payments, Installment Payments or Subordinate Obligation Payments, or which would otherwise impair the rights of the holders of Bonds or Certificates with respect to the Net Water Revenues or the operation of the Water System; provided, that any real or personal property which has become nonoperative or which is not needed for the efficient and proper operation of the Water System, or any material or equipment which has become worn out, may be sold if such sale will not reduce the Net Water Revenues below the requirements to be maintained under Section 4.09.

SECTION 4.03. Maintenance and Operation of the Water System; Budgets. The Authority will maintain and preserve the Water System in good repair and working order at all times and will operate the Water System in an efficient and economical manner and will pay all Maintenance and Operation Costs as they become due and payable.

Not later than September 1 of each year, the Authority will adopt and, if requested, make available to each Trustee, a budget approved by the Board of Directors of the Authority setting forth the estimated Maintenance and Operation Costs, the estimated payments for Debt Service and the estimated debt service payments on all Subordinate Obligations for the then current Fiscal Year; provided, that any such budget may be amended at any time during any Fiscal Year and, if requested, such amended budget shall be made available to each Trustee.

SECTION 4.04. Compliance with Contracts. The Authority will comply with, keep, observe and perform all agreements, conditions, covenants and terms, express or implied, required to be performed by it contained in all contracts for the use of the Water System and all other contracts affecting or involving the Water System to the extent that the Authority is a party thereto.

SECTION 4.05. No Superior Liens. The Authority will not create or allow any lien on or payment from the Net Water Revenues or any part thereof prior or superior to the

obligation to make the Bond Payments or Installment Payments as provided herein or which might impair the security of the Bond Payments or Installment Payments other than Subordinate Obligations.

SECTION 4.06. Insurance. The Authority will procure and maintain such insurance relating to the Water System which it shall deem advisable or necessary to protect its interests, which insurance shall afford protection in such amounts and against such risks as are usually covered in connection with facilities, properties, structures and works similar to the Water System; provided, the Authority shall not be required to procure or maintain any such insurance unless such insurance is commercially available at reasonable cost; provided, further, that any such insurance may be maintained under a self-insurance program so long as such self-insurance is maintained in the amounts and manner usually maintained in connection with facilities, properties, structures and works similar to the Water System. All policies of insurance required to be maintained herein shall provide that each Trustee shall be given thirty (30) days' written notice of any intended cancellation thereof or reduction of coverage provided thereby.

SECTION 4.07. Accounting Records and Financial Statements.

(a) The Authority will keep appropriate accounting records in which complete and correct entries shall be made of all transactions relating to the Water System, which records shall be available for inspection by each Trustee at reasonable hours and under reasonable conditions. OK

(b) The Authority will prepare and file with each Trustee annually within one hundred and twenty (120) days after the close of each Fiscal Year (commencing with the Fiscal Year ending June 30, 1989):

(1) financial statements of the Authority for the preceding Fiscal Year prepared in accordance with Generally Accepted Accounting Principles, certified by the Independent Certified Public Accountant who examined such financial statements stating that nothing came to his attention in connection with such examination that caused him to believe that the Authority was not in compliance with any of the agreements or covenants contained herein; and

(2) a detailed report as to all insurance policies maintained and self-insurance programs maintained by the Authority with respect to the Water

System as of the close of such Fiscal Year, including the names of the insurers which have issued the policies and the amounts thereof and the property or risks covered thereby.

(c) The Authority will prepare annually not more than one hundred twenty (120) days after the close of each Fiscal Year (commencing with the Fiscal Year ending June 30, 1989) a summary report showing in reasonable detail the results of the operations of the Authority for such Fiscal Year and containing a general statement of the physical condition of the facilities, properties, structures or works of the Authority. The Authority will furnish a copy of such summary report to each Trustee.

SECTION 4.08. Payment of Taxes and Compliance with Governmental Regulations. The Authority will pay and discharge all taxes, assessments and other governmental charges which may hereafter be lawfully imposed upon the Water System or any part thereof when the same shall become due. The Authority will duly observe and conform with all valid regulations and requirements of any governmental authority relative to the operation of the Water System or any part thereof, but the Authority shall not be required to comply with any regulations or requirements so long as the validity or application thereof shall be contested in good faith.

SECTION 4.09. Amount of Rates, Fees and Charges. The Authority will at all times fix, prescribe and collect or cause to be collected rates, fees and charges for the Water Service which are reasonably fair and nondiscriminatory and which will be at least sufficient to yield during the next succeeding Fiscal Year of the Authority Net Water Revenues sufficient for the payment of all amounts payable from Net Water Revenues during such Fiscal Year and at least equal to one hundred twenty per cent (120%) of the Debt Service on all Bonds and Contracts for such Fiscal Year. The Authority may make adjustments from time to time in such rates, fees and charges and may make such classification thereof as it deems necessary, but shall not reduce the rates, fees and charges then in effect unless the Net Water Revenues from such reduced rates, fees and charges will at all times be sufficient to meet the requirements of this section.

SECTION 4.10. Collection of Rates, Fees and Charges. The Authority will charge and collect or cause to be collected the rates, fees and charges applicable to the Water Service and will not permit any part of the Water System or any facility thereof to be used or taken advantage of free of charge by any corporation, firm or person, or by any public agency (including the United States of America, the State of

California and any city, county, district, political subdivision, public corporation or agency of any thereof); provided, that the Authority may without charge use the Water Service.

SECTION 4.11. Eminent Domain and Insurance Proceeds. If all or any part of the Water System shall be taken by eminent domain proceedings, or if the Authority receives any insurance proceeds resulting from a casualty loss to the Water System, the proceeds thereof shall be used to substitute other components for the condemned or destroyed components of the Water System.

ARTICLE V

MISCELLANEOUS

SECTION 5.01. Benefits of 1989 Resolution Limited to Parties. Nothing contained herein, expressed or implied, is intended to give to any person other than the Authority, the Trustees, the other parties to any Trust Agreement, Contract or Reimbursement Agreement or the holder of any Bonds, Certificates or Subordinate Obligations any right, remedy or claim under or pursuant hereto, and any agreement or covenant required herein to be performed by or on behalf of the Authority shall be for the sole and exclusive benefit of such other party.

SECTION 5.02. Successor Is Deemed Included in all References to Predecessor. Whenever the Authority is named or referred to herein, such reference shall be deemed to include the successor to the powers, duties and functions that are presently vested in the Authority, and all agreements and covenants required hereby to be performed by or on behalf of the Authority shall bind and inure to the benefit of the successors thereof whether so expressed or not.

SECTION 5.03. Article and Section Headings, Gender and References. The headings or titles of the several articles and sections hereof and the table of contents appended hereto shall be solely for convenience of reference and shall not affect the meaning, construction or effect hereof, and words of any gender shall be deemed and construed to include all genders. All references herein to "Articles," "Sections," "Exhibits" and other subdivisions or clauses are to the corresponding articles, sections, exhibits, subdivisions or clauses hereof; and the words "hereby," "herein," "hereof," "hereto," "herewith" and other words of similar import refer to this Resolution as a whole and not to any particular article, section, exhibit, subdivision or clause hereof.

SECTION 5.04. Partial Invalidity. If any one or more of the agreements or covenants or portions thereof required hereby to be performed by or on the part of the Authority shall be contrary to law, then such agreement or agreements, such covenant or covenants or such portions thereof shall be null and void and shall be deemed separable from the remaining agreements and covenants or portions thereof and shall in no way affect the validity hereof. The Authority hereby declares that it would have adopted this Resolution, and each and every other article, section, paragraph, subdivision, sentence, clause and phrase hereof irrespective of the fact that any one or more articles, sections, paragraphs, subdivisions, sentences, clauses or phrases hereof or the application thereof to any person or circumstance may be held to be unconstitutional, unenforceable or invalid.

SECTION 5.05. Funds. Any fund required to be established and maintained herein by the Director of Finance may be established and maintained in the accounting records of the Director of Finance either as an account or a fund, and may, for the purpose of such accounting records, any audits thereof and any reports or statements with respect thereto, be treated either as an account or a fund; but all such records with respect to any such fund shall at all times be maintained in accordance with sound accounting practice and with due regard for the protection of the security of the rights of the holders of Bonds, Certificates and Subordinate Obligations.

SECTION 5.06. Investments. Any money held by the Authority in any of the funds provided herein shall be invested in lawful investments of Authority funds, provided that money held in the Installment Payment Fund and the Subordinate Obligation Payment Fund shall be invested in lawful investments which will, as nearly as practicable, mature on or before the dates on which such money is anticipated to be needed to pay Bond Payments, Installment Payments, Reimbursement Payments or Subordinate Obligation Payments.

SECTION 5.07. Repeal of Inconsistent Resolutions. Any resolution of the Authority and any part of any resolution inconsistent herewith is hereby repealed to the extent of such inconsistency.

SECTION 5.08. Effective Date. This Resolution shall take effect from and after its passage and approval.

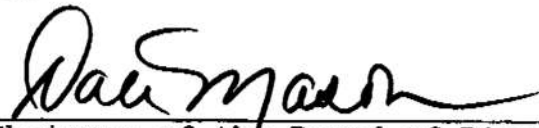
PASSED AND ADOPTED this 11th day of May, 1989, by
the following vote:

AYES: 29

NOES: 0

ABSENT: 6

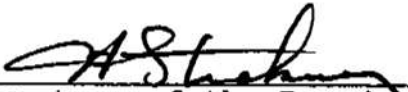
Approved:



Chairman of the Board of Directors
of the San Diego County Water
Authority

[SEAL]

Attest:



Secretary of the Board of Directors
of the San Diego County Water
Authority

RESOLUTION NO. 97-52

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SAN DIEGO
COUNTY WATER AUTHORITY PLEDGING NET WATER REVENUES
TO SECURE THE PAYMENT OF OBLIGATIONS PAYABLE FROM NET
WATER REVENUES

WHEREAS, the San Diego County Water Authority, a county water authority duly organized and existing under and pursuant to the Constitution and laws of the State of California (the "Authority"), is authorized under provisions of the Constitution and laws of the State of California, and in accordance therewith, to incur indebtedness and to purchase real and personal property as the Authority may determine is necessary or proper; and

WHEREAS, the Board of Directors of the Authority adopted, on May 11, 1989, Resolution No. 89-21 of the Authority providing for the allocation of water system revenues and establishing covenants to secure the payment of obligations payable from the net water revenues of the Authority (the "General Resolution"); and

WHEREAS, it is now desirable to amend the General Resolution to pledge net water revenues to secure the payment of Bonds, Contracts, Reimbursement Payments and Subordinate Obligations (as defined in the General Resolution);

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the San Diego County Water Authority, as follows:

Section 1. The Authority hereby specifically finds and declares that the statements, findings and determinations of the Authority set forth above are true and correct.

Section 2. Section 2.07 is hereby added to the General Resolution to read in full as follows:

Section 2.07 Pledge of Net Water Revenues. Net Water Revenues are hereby pledged to secure the payment of all Bond Payments, Installment Payments and Reimbursement Payments and, subordinate thereto, the payment of all Subordinate Obligations."

Section 3. This resolution shall take effect upon receipt of the consent of all parties from whom consent is required for amendments to the General Resolution.

PASSED, APPROVED and ADOPTED this 11th day of December, 1997.

AYES:

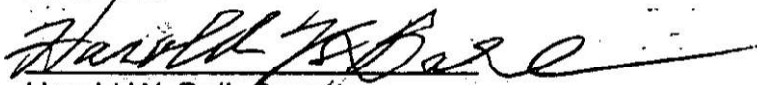
NOES: Manning

ABSTAIN:

ABSENT: Broomell, Chenelle, Davis, Newton, Oulst, Slater,
R. Williams


Chris Frahm, Chair

ATTEST:


Harold W. Ball, Secretary

I, Janet R. Maltman, Board Secretary of the San Diego County Water Authority, do hereby certify that the above and foregoing is a full, true and correct copy of said resolution No. 97-5 of said Board and that the same has not been amended or repealed.


Janet R. Maltman, Board Secretary

njs

RESOLUTION NO. 09- 23RESOLUTION OF THE BOARD OF DIRECTORS OF THE SAN DIEGO
COUNTY WATER AUTHORITY ADDRESSING THE TREATMENT OF
INTEREST SUBSIDY PAYMENTS UNDER RESOLUTION 89-21

WHEREAS, the San Diego County Water Authority, a county water authority duly organized and existing under and pursuant to the Constitution and the laws of the State of California (the "Water Authority"), is authorized under provisions of the Constitution and the laws of the State of California, and in accordance therewith, to incur indebtedness and to purchase real and personal property as the Water Authority may determine is necessary or proper; and

WHEREAS, the Board of Directors of the Authority adopted, on May 11, 1989, Resolution No. 89-21 of the Water Authority, amended by Resolution No. 97-52 of the Board of Directors of the Water Authority adopted on December 11, 1997, providing for the pledge and allocation of water system revenues and establishing covenants to secure the payment of obligations payable from the net water revenues of the Water Authority (the "General Resolution"); and

WHEREAS, the Water Authority may, from time to time, issue Bonds (as defined in the General Resolution) or execute Contracts (as defined in the General Resolution) with respect to which the Water Authority will be entitled to receive cash subsidy payments from the United States Treasury, such as "Build America Bonds" issued under the provisions of the American Recovery and Reinvestment Act of 2009 ("Interest Subsidy Payments"); and

WHEREAS, it is now desirable to amend the General Resolution to provide that Interest Subsidy Payments not constitute Current Water Revenues (as defined in the General Resolution) but instead constitute reductions in Debt Service (as defined in the General Resolution).

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the San Diego County Water Authority, as follows:

Section 1. The Water Authority hereby specifically finds and declares that the statements, findings and determinations of the Water Authority set forth above are true and correct.

Section 2. Section 1.01 of the General Resolution is hereby amended to add the following definition:

Interest Subsidy Payments

"Interest Subsidy Payments" means cash subsidy payments entitled to be received by the Authority from the United States Treasury with respect to Bonds issued and Contracts executed by the Authority, including, but not limited to, "Build America Bonds" issued as contemplated by the American Recovery and Reinvestment Act of 2009.

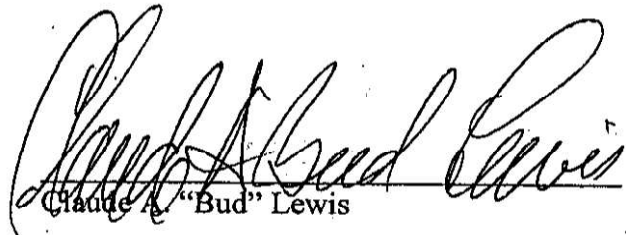
PASSED, APPROVED and ADOPTED this 17th day of December, 2009.

AYES: Unless noted below, all Directors present voted aye.

NOES:

ABSTAIN: Wornham

ABSENT: Bowersox (p)
Johnson
Martin
Watton (p)



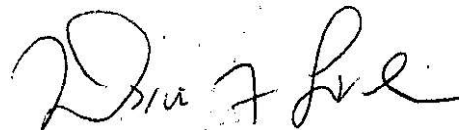
Claude A. "Bud" Lewis

ATTEST:



Thomas V. Wornham, Secretary

I, Doria F. Lore, Board Secretary of the San Diego County Water Authority, do hereby certify that the above and foregoing is a full, true and correct copy of said resolution No. 09- 23 of said Board and that the same has not been amended or repealed.



Doria F. Lore, Board Secretary

Section 3. The definition of "Current Water Revenues" in Section 1.01 of the General Resolution is hereby amended to read in full as follows:

Current Water Revenues

"Current Water Revenues" means all gross income and revenue received or receivable by the Authority from the ownership or operation of the Water System, determined in accordance with Generally Accepted Accounting Principles, including all rates, fees and charges (including connection fees and charges and standby charges) received by the Authority for the Water Service and the other services of the Water System and all other income and revenue howsoever derived by the Authority from the ownership or operation of the Water System or arising from the Water System, and also including (1) all income from the deposit or investment of any money in the Water Revenue Fund, the General Reserve Fund and the Rate Stabilization Fund, and (2) all income from the deposit or investment of money held in the Installment Payment Fund, the Subordinate Obligation Fund or any Bond or Contract Reserve Fund or other fund established pursuant to a Trust Agreement to the extent such income will be available to pay Bond Payments or Installment Payments, but excluding any Interest Subsidy Payments, any proceeds of taxes and any refundable deposits made to establish credit and advances or contributions in aid of construction.

Section 4. The definition of "Debt Service" in Section 1.01 of the General Resolution is hereby amended to read in full as follows:

Debt Service

"Debt Service" means, for any Fiscal Year or other period, the sum of (1) the interest accruing during such Fiscal Year or period on all outstanding Bonds, assuming that all outstanding serial Bonds are retired as scheduled and that all outstanding term Bonds are redeemed or paid from sinking fund payments as scheduled, (2) that portion of the principal amount of all outstanding serial Bonds maturing on the next succeeding principal payment date that would have accrued during such Fiscal Year or period if such principal amount were deemed to accrue daily in equal amounts from the next preceding principal payment date or during the year preceding the first principal payment date, as the case may be, (3) that portion of the principal amount of all outstanding term Bonds required to be redeemed or paid on the next succeeding redemption date (together with the redemption premiums, if any, thereon) that would have accrued during such Fiscal Year or period if such principal amount (and redemption premiums) were deemed to accrue daily in equal amounts from the next preceding redemption date or during the year preceding the first redemption date, as the case may be, and (4) that portion of the Installment Payments required to be made at the times provided in the Contracts that would have accrued during such Fiscal Year or period if such Installment Payments were deemed to accrue daily in equal amounts from, in each case, the next preceding Installment Payment Date of interest or principal or the date of the pertinent Contract, as the case may be; provided, that (a) if any of such Bonds are Capital Appreciation Bonds or if the Installment Payments due under any of such Contracts are evidenced by Capital Appreciation Certificates, then the Accreted Value payment shall be deemed due on the

scheduled redemption or payment date of such Capital Appreciation Bond or Capital Appreciation Certificate; (b) if any of such Bonds or if the Installment Payments due under such Contracts bear interest payable pursuant to a variable interest rate formula, the interest rate on such Bonds or such Contracts for periods when the actual interest rate cannot yet be determined, shall be assumed to be equal to the greater of (1) the current interest rate calculated pursuant to the provisions of the terms of such Bonds or Contracts (with respect to the issuance of Bonds or the execution of Contracts pursuant to Section 3.02, the initial interest rate on such Bonds or Contracts), or, (2) if available, the average interest rate on such Bonds or Contracts during the thirty-six (36) months preceding the date of calculation or, (3) if such Bonds or Contracts have not been outstanding for such thirty-six month period (or with respect to the issuance of Bonds or the execution of Contracts pursuant to Section 3.02), such average interest rate on comparable debt of a state or political subdivision of a state which debt is then rated by the rating agencies rating such Bonds or Contracts in a rating category equivalent to the rating on such Bonds or Contracts; and (c) if 20% or more of the original principal of such Bonds or the Installment Payments due under such Contracts is not due until the final stated maturity of such Bonds or the Installment Payments due under such Contracts, such principal may, at the option of the Authority, be treated as if it were due based upon a level amortization of such principal over the term of such Bonds or Contracts or twenty (20) years, whichever is greater; provided further, that "Debt Service" shall not include (1) payments due on voter-approved general obligation bonds and other voter-approved general obligation debts for which taxes are then being levied and collected, (2) interest on Bonds or Contracts which is to be paid from amounts constituting capitalized interest held pursuant to a Trust Agreement or (3) interest on Bonds or Contracts which is to be paid from Interest Subsidy Payments.

Section 5. This resolution shall take effect upon receipt of the consent of all parties from whom consent is required for amendments to the General Resolution.

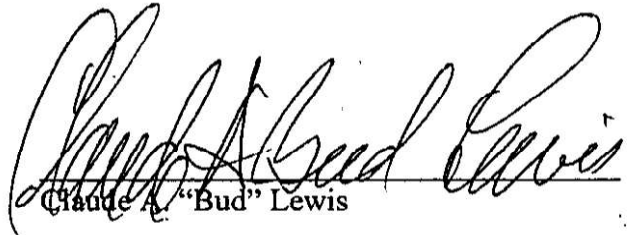
PASSED, APPROVED and ADOPTED this 17th day of December, 2009.

AYES: Unless noted below, all Directors present voted aye.

NOES:

ABSTAIN: Wornham

ABSENT: Bowersox (p)
Johnson
Martin
Watton (p)



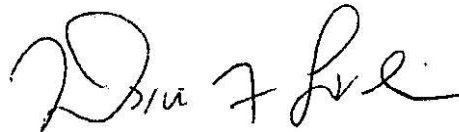
Claude A. "Bud" Lewis

ATTEST:



Thomas V. Wornham, Secretary

I, Doria F. Lore, Board Secretary of the San Diego County Water Authority, do hereby certify that the above and foregoing is a full, true and correct copy of said resolution No. 09- 23 of said Board and that the same has not been amended or repealed.



Doria F. Lore, Board Secretary

RESOLUTION NO. 09- 23

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SAN DIEGO COUNTY WATER AUTHORITY ADDRESSING THE TREATMENT OF INTEREST SUBSIDY PAYMENTS UNDER RESOLUTION 89-21

WHEREAS, the San Diego County Water Authority, a county water authority duly organized and existing under and pursuant to the Constitution and the laws of the State of California (the "Water Authority"), is authorized under provisions of the Constitution and the laws of the State of California, and in accordance therewith, to incur indebtedness and to purchase real and personal property as the Water Authority may determine is necessary or proper; and

WHEREAS, the Board of Directors of the Authority adopted, on May 11, 1989, Resolution No. 89-21 of the Water Authority, amended by Resolution No. 97-52 of the Board of Directors of the Water Authority adopted on December 11, 1997, providing for the pledge and allocation of water system revenues and establishing covenants to secure the payment of obligations payable from the net water revenues of the Water Authority (the "General Resolution"); and

WHEREAS, the Water Authority may, from time to time, issue Bonds (as defined in the General Resolution) or execute Contracts (as defined in the General Resolution) with respect to which the Water Authority will be entitled to receive cash subsidy payments from the United States Treasury, such as "Build America Bonds" issued under the provisions of the American Recovery and Reinvestment Act of 2009 ("Interest Subsidy Payments"); and

WHEREAS, it is now desirable to amend the General Resolution to provide that Interest Subsidy Payments not constitute Current Water Revenues (as defined in the General Resolution) but instead constitute reductions in Debt Service (as defined in the General Resolution).

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the San Diego County Water Authority, as follows:

Section 1. The Water Authority hereby specifically finds and declares that the statements, findings and determinations of the Water Authority set forth above are true and correct.

Section 2. Section 1.01 of the General Resolution is hereby amended to add the following definition:

Interest Subsidy Payments

"Interest Subsidy Payments" means cash subsidy payments entitled to be received by the Authority from the United States Treasury with respect to Bonds issued and Contracts executed by the Authority, including, but not limited to, "Build America Bonds" issued as contemplated by the American Recovery and Reinvestment Act of 2009.

Section 3. The definition of "Current Water Revenues" in Section 1.01 of the General Resolution is hereby amended to read in full as follows:

Current Water Revenues

"Current Water Revenues" means all gross income and revenue received or receivable by the Authority from the ownership or operation of the Water System, determined in accordance with Generally Accepted Accounting Principles, including all rates, fees and charges (including connection fees and charges and standby charges) received by the Authority for the Water Service and the other services of the Water System and all other income and revenue howsoever derived by the Authority from the ownership or operation of the Water System or arising from the Water System, and also including (1) all income from the deposit or investment of any money in the Water Revenue Fund, the General Reserve Fund and the Rate Stabilization Fund, and (2) all income from the deposit or investment of money held in the Installment Payment Fund, the Subordinate Obligation Fund or any Bond or Contract Reserve Fund or other fund established pursuant to a Trust Agreement to the extent such income will be available to pay Bond Payments or Installment Payments, but excluding any Interest Subsidy Payments, any proceeds of taxes and any refundable deposits made to establish credit and advances or contributions in aid of construction.

Section 4. The definition of "Debt Service" in Section 1.01 of the General Resolution is hereby amended to read in full as follows:

Debt Service

"Debt Service" means, for any Fiscal Year or other period, the sum of (1) the interest accruing during such Fiscal Year or period on all outstanding Bonds, assuming that all outstanding serial Bonds are retired as scheduled and that all outstanding term Bonds are redeemed or paid from sinking fund payments as scheduled, (2) that portion of the principal amount of all outstanding serial Bonds maturing on the next succeeding principal payment date that would have accrued during such Fiscal Year or period if such principal amount were deemed to accrue daily in equal amounts from the next preceding principal payment date or during the year preceding the first principal payment date, as the case may be, (3) that portion of the principal amount of all outstanding term Bonds required to be redeemed or paid on the next succeeding redemption date (together with the redemption premiums, if any, thereon) that would have accrued during such Fiscal Year or period if such principal amount (and redemption premiums) were deemed to accrue daily in equal amounts from the next preceding redemption date or during the year preceding the first redemption date, as the case may be, and (4) that portion of the Installment Payments required to be made at the times provided in the Contracts that would have accrued during such Fiscal Year or period if such Installment Payments were deemed to accrue daily in equal amounts from, in each case, the next preceding Installment Payment Date of interest or principal or the date of the pertinent Contract, as the case may be; provided, that (a) if any of such Bonds are Capital Appreciation Bonds or if the Installment Payments due under any of such Contracts are evidenced by Capital Appreciation Certificates, then the Accreted Value payment shall be deemed due on the

scheduled redemption or payment date of such Capital Appreciation Bond or Capital Appreciation Certificate; (b) if any of such Bonds or if the Installment Payments due under such Contracts bear interest payable pursuant to a variable interest rate formula, the interest rate on such Bonds or such Contracts for periods when the actual interest rate cannot yet be determined, shall be assumed to be equal to the greater of (1) the current interest rate calculated pursuant to the provisions of the terms of such Bonds or Contracts (with respect to the issuance of Bonds or the execution of Contracts pursuant to Section 3.02, the initial interest rate on such Bonds or Contracts), or, (2) if available, the average interest rate on such Bonds or Contracts during the thirty-six (36) months preceding the date of calculation or, (3) if such Bonds or Contracts have not been outstanding for such thirty-six month period (or with respect to the issuance of Bonds or the execution of Contracts pursuant to Section 3.02), such average interest rate on comparable debt of a state or political subdivision of a state which debt is then rated by the rating agencies rating such Bonds or Contracts in a rating category equivalent to the rating on such Bonds or Contracts; and (c) if 20% or more of the original principal of such Bonds or the Installment Payments due under such Contracts is not due until the final stated maturity of such Bonds or the Installment Payments due under such Contracts, such principal may, at the option of the Authority, be treated as if it were due based upon a level amortization of such principal over the term of such Bonds or Contracts or twenty (20) years, whichever is greater; provided further, that "Debt Service" shall not include (1) payments due on voter-approved general obligation bonds and other voter-approved general obligation debts for which taxes are then being levied and collected, (2) interest on Bonds or Contracts which is to be paid from amounts constituting capitalized interest held pursuant to a Trust Agreement or (3) interest on Bonds or Contracts which is to be paid from Interest Subsidy Payments.

Section 5. This resolution shall take effect upon receipt of the consent of all parties from whom consent is required for amendments to the General Resolution.

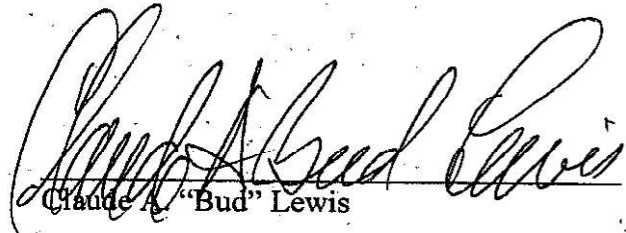
PASSED, APPROVED and ADOPTED this 17th day of December, 2009.

AYES: Unless noted below, all Directors present voted aye.

NOES:


ABSTAIN: Wornham

ABSENT: Bowersox (p)
Johnson
Martin
Watton (p)



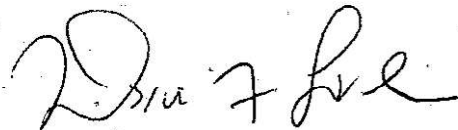
Claude A. "Bud" Lewis

ATTEST:



Thomas V. Wornham, Secretary

I, Doria F. Lore, Board Secretary of the San Diego County Water Authority, do hereby certify that the above and foregoing is a full, true and correct copy of said resolution No. 09- 23 of said Board and that the same has not been amended or repealed.



Doria F. Lore, Board Secretary

Appendix E

A&N TECHNICAL SERVICES, INC. - SUPPLY RELIABILITY CHARGE MEMO



A & N Technical Services, Inc.

Memorandum

To: Lisa Marie Harris, Director of Finance
Dan Hentschke, General Counsel

From: Thomas W. Chesnutt, Ph.D., CAP®

Date: March 2, 2015

Re: **Review of Proposed SDCWA - *Supply Reliability Charge***

Purpose

A & N Technical Services, Inc. has been retained by the San Diego County Water Authority to independently review and provide a professional opinion of whether the proposed *Supply Reliability Charge* as described later in this memorandum is consistent with recognized cost-of-service based rate setting principles, that the amount expected to be generated by the charge is no more than necessary to cover the reasonably anticipated revenue requirement (“costs”) for governmental services or products for which the charge is imposed, and that the manner in which the costs are generally allocated by the charge bears a fair or reasonable relationship to the payor’s burdens on or benefits received from the governmental services or products.¹

Findings

The proposed *Supply Reliability Charge* comports with water industry cost-of-service-based rate-setting principles. By design, it cannot recover more than the costs allocated to the supply functional costs, since it is computed as a portion of those functional supply costs. Further, it constitutes a reasonable allocation of functional supply costs in that it better aligns the fixed incremental supply costs taken on by the Water Authority to make highly reliable potable water supplies available to its member agencies within the County of San Diego with the benefits available to all water customers connected to the SDCWA integrated water system.

The proposal addresses fairness by allowing for predictability of charge incidence (based on a rolling five year average of historical deliveries) and adjustments to future charge incidence if demand requirements of member agencies change in the future due to local supply

¹ This analysis is limited to a review of the proposed charge in the context of the Water Authority rates structure. It does not include allocation of individual costs to functional rate categories. That aspect of the cost-of-service study for the determination and setting of the amount of the charge will be performed by others.

development or demand management. This reviewer approves of the stated intention to re-examine the *Supply Reliability Charge* in five years and to embed it as a fixed charge in fiscal procedures and policies intended to assure the SDCWA's fiscal sustainability objectives².

Description of the Supply Reliability Charge

The proposed *Supply Reliability Charge* will create a new fixed charge for the functional incremental supply costs³ allocated to enhanced supply reliability. Under the proposed methodology the charge would be set annually. First the difference between the combined Desalination and IID Water Transfer Costs and a like amount of water purchased at the MWD Tier 1 Full Service Untreated Rate is determined. The calculated difference is then multiplied by 25% to determine the calendar year *Supply Reliability Charge*. A detailed calculation methodology is shown below:

² See GASB (2011) Preliminary Views on Economic Condition Reporting.

³ Functional incremental supply costs for this purpose are understood to be associated with the two highly reliable supplies available to the San Diego County Water Authority that constitute the new and forward-looking supplies—i.e., the supply costs incidental to IID Transfer water supply and the Carlsbad Desalination plant; these are a subset of SDCWA's overall functional supply costs. The overall supply costs for the Water Authority, include the Tier 1 full service water rate payments made to MWD for purchase of MWD water (currently the total of MWD's Tier 1 supply rate, system access rate, system power rate, and water stewardship charge), the cost of payments made to IID for transferred water under the IID/SDCWA Agreement for Transfer of Conserved Water plus the payments made to MWD for transportation of that water to the Water Authority service territory under the Exchange Agreement, the payments made for desalinated water under the Water Authority/Poseidon Water Purchase Agreement, and certain other costs of water. Because the Water Authority provides both treated and untreated water, its functional supply costs, by definition, exclude other functional costs such as the functional cost of treatment. The Water Authority's functional cost categories are currently described in Water Authority Administrative Code section 5.00.050 and Water Authority Ordinance No. 2014-01.

Supply Reliability Charge = [(Desalination Water Cost + IID Water Transfer Cost) – MWD Tier 1 Equivalent Cost] × 25%

Desalination Water Cost = (Water Purchase Agreement Contract Price⁴ – Melded Treatment Rate) × Desalination Deliveries

IID Water Transfer Cost

= (IID Water Contract Price + MWD Transportation Rate) × IID Water Deliveries

MWD Tier 1 Equivalent Cost

= (MWD Tier 1 Full Service Untreated Rate × Total Reliability Deliveries)

Total Reliability Deliveries = Desalination Deliveries + IID Water Transfer Deliveries.

As used in this formula, *Desalination Deliveries* are 42,000 AF/Y and *IID Water Transfer Deliveries* are 100,000 AF/Y in 2016 and ramp up to 200,000 AF/Y according to the transfer schedule in the Transfer Agreement.

The revenue generated from this charge will only be applied to the supply revenue requirement prior to determining the volumetric Melded Supply Rate. This charge will be allocated to member agencies based on a five year rolling average of applicable historical water deliveries⁵. This charge will be zero when MWD's Tier 1 costs are equal or greater than the combined Desalination and IID Water Transfer Costs.

Criteria for Evaluation of the Supply Reliability Charge

This independent review will use the CUWA Public Investment Principles in its analysis of the *Supply Reliability Charge*. These principles were the product of a multiple agency working group at the California Urban Water Agencies and includes the following principles for publicly financed water projects:⁶

⁴ The desalinated water contract price includes the following components:

WPA Article 17.4 Capital Charges

(Debt Service Charge + Equity Return Charge)

WPA Article 17.5 Operating Charge

(Fixed Operating Charge + Variable Operating Charge)

WPA Article 17.6 Electricity Charge

(Fixed Electricity Charge + Variable Electricity Charge)

WPA Article 8.14 Poseidon Management Fee

(Annual Management Fee)

⁵ A & N Technical Services has been informed by Water Authority staff that discussions regarding the future of the Transitional Special Agricultural Water Rate (TSAWR) are ongoing and may impact the allocation of the charge to member agencies.

⁶ See the CUWA Public Investment White Papers found at <http://www.cuwa.org>.

1. *Inclusive* of all beneficiaries
2. *A clear nexus* between charges and benefits received
3. *Specificity*, based on defined projects and costs
4. *Transparency* of benefit and cost allocation decisions, *understandable* to beneficiaries funding the efforts
5. Strict *dedication* of funds
6. Reasonable *assurances* that benefits will be delivered

AWWA Manual M1. *On Rate Making Objectives:* Accurate attribution of costs of service is not the only objective of water utility ratemaking. Derived from Bonbright et al. (1961, 1988) the *Principles of Water Rates, Fees, and Charges, AWWA Manual M1, Sixth Edition* (2012, p. 4) provides a more complete list of typical ratemaking objectives:

- Effectiveness in yielding total revenue requirements (full cost recovery)
- Revenue stability and predictability
- Stability and predictability of the rates themselves from unexpected or adverse changes
- Promotion of efficient resource use (conservation and efficient use)
- Fairness in the appointment of total costs of service among the different ratepayers
- Avoidance of undue discrimination (subsidies) within the rates
- Dynamic efficiency in responding to changing supply and demand patterns
- Freedom from controversies as to proper interpretation of the rates
- Simple and easy to understand
- Simple to administer
- Legal and defensible

Analysis

The *Supply Reliability Charge* reasonably comports with the CUWA principles cited above. The charge is *inclusive* of all customers that have recently taken SDCWA deliveries and could reasonably be expected to benefit from highly reliable incremental water supplies. There is a *clear nexus* between this fixed charge and the benefits of highly reliable incremental supplies received by SDCWA customers. The charge is quite *specific*, being based on two incremental water supplies (Carlsbad Desalination and IID Transfer) defined by contract and imported supplies from MWD (though currently non-contractual, these supply costs are specific.) The multiple year public process (Board hearings, Board Fiscal Sustainability Task Force, Member Agency Managers Workgroup, and public outreach) have provided *transparency* of benefit and cost allocation deliberation with ample opportunity to improve *understanding* to SDCWA member agencies and their customers (beneficiaries) about the funding of these highly reliable incremental water supplies. Funds collected from the charge are *dedicated* to recovering a

subset of functional supply costs and cannot be used for other purposes. The contracts for incremental supplies provide reasonable *assurances* that the benefits of highly reliable incremental supplies will be delivered.

The *Supply Reliability Charge* makes reasonable tradeoffs among cost-of-service-based ratemaking objectives cited above.

Precedence for Fixed Charges. The concept of levying fixed charges to recover the costs required for the capacity to deliver public service has a long history (Dupuit, 1844 and more recently Kahn, 1991) and is familiar to anyone who has paid access, standby, or “demand” capacity charges.

Bibliography

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