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REPORT

WATER COST OF SERVICE & RATE STUDY

OCTOBER 2026



Prepared for:
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October 7, 2026

Mr. Cástulo Estrada
Utilities Director
City of Coachella
53462 Enterprise Way
Coachella, CA 92236

Subject: Coachella Water Authority Cost of Service and Rate Study

Dear Mr. Estrada,

NewGen Strategies and Solutions, LLC is pleased to submit to the City of Coachella our report detailing our completed Water Cost of Service and Rate Study for the Coachella Water Authority. This report summarizes our study's results regarding the forecasted costs of providing water treatment and distribution service to the City's water customers and our recommendations for recovering those costs over the fiscal years 2027 through 2031. The rates described in our report are fair and equitable, align with Proposition 218 requirements, and will result in the sustainable operation of the City's water utility.

We appreciate the opportunity to provide our services to the City and would like to express our sincere appreciation to City staff. The dedication and assistance provided by City staff was essential to the completion of this study. It has been a distinct pleasure to work with the City of Coachella. Please contact us if you have any questions regarding our study or our recommendations.

Sincerely,
NewGen Strategies and Solutions, LLC

DocuSigned by:

A blue ink signature of Eric Callocchia, written in a cursive style.

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Eric Callocchia
Partner

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EXECUTIVE SUMMARY

The City of Coachella (City) retained NewGen Strategies and Solutions, LLC (NewGen) to prepare a comprehensive water cost of service and rate study. The study establishes a five-year financial plan for the water utility, allocates the cost of providing water service among customer classes in proportion to the demands each class places on the system, and designs rates that recover those costs in a manner consistent with Proposition 218. This Executive Summary presents the study's principal findings and recommendations; the analysis supporting them is set out in Sections 1 through 6 and the appendices that follow.

The central conclusion of the study is that CWA's existing water rates are no longer sufficient to fund the cost of providing water service. The Authority must finance an estimated \$54.1 million state-mandated Chromium-6 treatment program alongside its ongoing operating and capital needs, and at current rates the water fund is projected to produce a debt service coverage ratio of 0.07x in FY 2026 — below the 1.10x required by the Authority's bond covenants. NewGen recommends that CWA adopt the five-year, cost-of-service-based rate schedule developed in this study, with rates effective January 1 of each year from 2027 through 2031, and that it initiate the Proposition 218 notice and protest process required to do so.

Why Rates Must Increase

The single largest driver of the Authority's revenue requirement is California's Chromium-6 maximum contaminant level, which took effect in 2024 and requires public water systems to reduce hexavalent chromium concentrations to 10 parts per billion. CWA has identified seven groundwater wells — Wells 11, 12, 16, 17, 18, 19, and 20 — that require treatment to achieve compliance. The Authority selected Reduction Coagulation Filtration as the treatment approach, at an estimated capital cost of \$54.1 million, together with the ongoing operating costs of running and maintaining the new facilities.

Because the Drinking Water State Revolving Fund (DWSRF) application process requires an applicant to demonstrate adopted rates sufficient to repay a loan before a complete financing package can be submitted, the financial plan underlying this study conservatively assumes that CWA self-funds the entire program through revenue bonds, with no grant or subsidized financing. That assumption adds approximately \$2.5 million of annual debt service beginning in FY 2030. If the Authority subsequently secures a DWSRF loan, or the principal forgiveness for which it may qualify as a Disadvantaged Community, its actual revenue requirement will fall below the level the adopted rates are designed to recover.

Combined with the Authority's ongoing operating and maintenance costs, existing debt service, and pay-as-you-go capital program, these obligations increase the net revenue requirement from \$8.0 million in FY 2026 to \$15.8 million in FY 2031. The increase is heavily front-loaded: the net revenue requirement rises 68.7% in FY 2027 as capital spending begins and operating costs step up, then changes by 5.8%, 5.1%, 5.3%, and 0.7% over the four years that follow.



EXECUTIVE SUMMARY

Cost of Service and Rate Design

Rates were developed using the industry-standard, three-step process described in Section 3. Costs were first functionalized into the activities the utility performs — supply and treatment, transmission and distribution, customer service, and metering. Functionalized costs were then allocated to the demand components that cause them: base (average day) demand, maximum day demand, maximum hour demand, and customer- and meter-related costs. Finally, allocated costs were distributed to customer classes in proportion to each class's contribution to those demands.

Applied to the Test Year 2030 net revenue requirement of \$15.7 million, this process allocates 54.8% of costs to base demand, 6.9% to customer-related costs, 17.7% to maximum day demand, 11.1% to meter-related costs, and 9.5% to maximum hour demand. Customer- and meter-related costs are recovered through fixed monthly service charges that scale with meter size, and the base, maximum day, and maximum hour costs are recovered through a three-tier volumetric rate. Because higher tiers reflect a greater share of peaking cost, the tier differentials are grounded in measured system demand characteristics rather than in conservation policy alone — an important distinction under Proposition 218 and the case law interpreting it.

The resulting rate schedule is summarized below. The full schedule for all meter sizes appears in Table 4-1.

Table ES-1
Proposed Water Rates, FY 2027 – FY 2031

Rate Component	Effective January 1, 2027	Effective January 1, 2028	Effective January 1, 2029	Effective January 1, 2030	Effective January 1, 2031
Monthly Meter Charge (¾-inch)	\$19.67	\$20.81	\$21.87	\$23.02	\$23.19
Tier 1: 0 – 8 HCF	\$2.89	\$3.06	\$3.21	\$3.38	\$3.41
Tier 2: 9 – 17 HCF	\$3.08	\$3.25	\$3.42	\$3.60	\$3.63
Tier 3: Over 17 HCF	\$3.84	\$4.06	\$4.27	\$4.49	\$4.52

Customer Bill Impacts

The rate adjustment falls unevenly across time rather than across customer classes: the great majority of the increase occurs in the first year, after which annual changes are modest. A single-family residential customer with a ¾-inch meter using 21 HCF per month currently pays \$45.30 per month. That bill increases to \$85.83 effective January 1, 2027, and then rises by 5.8%, 5.1%, 5.3%, and 0.7% in the following four years, reaching \$101.16 in FY 2031. First-year increases for other customer categories range from 100.5% for multi-family residential to 128.4% for high-use commercial accounts, with institutional customers at 109.7%.

Notwithstanding the magnitude of the first-year adjustment, CWA remains competitively priced within its region. At 21 HCF per month, the Authority's estimated FY 2028 bill of \$90.80 is below the \$104.72 average of the 18 comparison agencies surveyed in Section 5, and 12 of those 18 agencies charge more than CWA would for the same level of service. The Authority moves from among the lowest-priced agencies in the survey to a position near the middle of the group.

Financial Outlook

Under the recommended rates, total water fund revenues grow from \$10.7 million in FY 2027 to \$16.5 million in FY 2031, sufficient to fund operating and maintenance costs, existing and future debt service, and the pay-as-you-go portion of the capital improvement program. Debt service coverage recovers from 0.07x in FY 2026 to 1.37x in FY 2027 and remains at or above 1.25x in every subsequent year — above the 1.10x covenant requirement and at the recommended limit. The ending fund balance dips to \$1.7 million in FY 2027, below the recommended minimum, before recovering to \$6.2 million by FY 2031. The Authority meets or exceeds its recommended reserve balance in every year of the forecast except FY 2027, against targets of 90 days of operating expenses for the operating reserve and 30 days of average annual pay-as-you-go capital spending for the capital reserve.

Recommendations

- **Adopt the five-year rate schedule.** Fixed monthly service charges by meter size and three-tier volumetric rates should take effect January 1 of each year from 2027 through 2031, as set out in Table 4-1.
- **Initiate the Proposition 218 process without delay.** Written notice must be mailed to affected property owners and customers of record at least 45 days before the public hearing, and adopted rates are a prerequisite to submitting a complete DWSRF financing package.
- **Pursue DWSRF financing, including principal forgiveness.** As a Disadvantaged Community, CWA may qualify for principal forgiveness that would reduce debt service below the level assumed in this study.
- **Formally adopt a reserve policy.** An operating reserve of 90 days of operating expenses and a capital reserve of 30 days of average annual pay-as-you-go capital spending should be codified.
- **Monitor annually and update the study within five years.** The study should be revisited sooner if the scope, schedule, or financing terms of the Chromium-6 program change materially, or if water sales diverge significantly from projected demand.
- **Pair the adjustment with outreach and customer assistance.** The Authority should communicate the regulatory basis for the Chromium-6 program ahead of the public hearing and evaluate a low-income assistance program funded from a source other than water rate revenue.
-

Section 1

BACKGROUND AND SCOPE OF WORK

City of Coachella Background

The City of Coachella is located at the east end of the Coachella Valley in Riverside County, California, approximately 40 miles south of Palm Springs. Incorporated in 1946, Coachella encompasses approximately 30 square miles and is home to a population of roughly 43,000 residents. The surrounding area is characterized by agricultural land to the south, undeveloped land to the east and north, and urban growth to the west.

The City's utility service area encompasses approximately 32 square miles and has a sphere of influence that extends across approximately 53 square miles in the eastern Coachella Valley. The City provides utility services to approximately 9,255 residential and commercial customers across its water system and 8,919 across its wastewater system.

Coachella Water Authority

The City of Coachella began providing water service in 1957 and serves as the municipal water utility for the City. CWA provides potable water service to approximately 9,000 residential and commercial customers within a service area of roughly 32 square miles. The Authority's water system is designed around local groundwater as its principal source of supply, supplemented by a distribution infrastructure built to serve the demands of a growing desert community.

Water Supply

The CWA's primary source of water supply is local groundwater pumped from City-owned and operated wells. The system currently includes six (6) operational wells, all of which are active within the City's distribution system. The total pumping capacity of the active wells is approximately 11,800 gallons per minute (gpm), or approximately 16.9 million gallons per day (MGD).

Distribution System Infrastructure

The water distribution system is divided into two pressure zones — the Low Zone and the 150 Zone — and includes the following key infrastructure components:

- Six active groundwater wells (with a future Well 20 under construction)
- Three (3) storage reservoirs with a total reservoir storage capacity of approximately 10.5 million gallons (MG)
- Two (2) booster pumping stations
- Approximately 120 miles of pipeline, ranging from 4 inches to 24 inches in diameter

Together, these facilities provide reliable potable water service to the approximately 9,000 residential and commercial customer connections within the CWA service area.

Section 1

Current Rate Structure

CWA currently employs a two-part water rate structure comprised of fixed monthly meter charges that vary by meter size and a two-tier inclining block volumetric rate structure. The existing rate structure does not distinguish between customer classes; all customers are subject to the same meter charges, volumetric tier thresholds and per hundred cubic feet (HCF) rate in each tier.

Study Background

The City of Coachella engaged NewGen Strategies and Solutions, LLC (NewGen) to conduct a Comprehensive Water Rate Study for the CWA. The purpose of this Study was to ensure that the City's water utilities have sufficient, defensible funding to meet their operational, capital, and current debt service obligations, and that utility rates are proportionate to the cost of providing service consistent with the requirements of Proposition 218.

The pressures driving the need for this Study included, among other factors:

- Increasing costs of labor, materials, and water supply
- Regulatory mandated Chromium-6 treatment requirements
- The need to fund major capital asset maintenance and replacement
- The requirement to maintain adequate reserves and meet existing debt service obligations
- The City's Utilities Department Utility Manpower Study recommendations
- A Compensation Study's recommendations

NewGen's analysis encompasses a five-year rate forecast period from Fiscal Year (FY) 2027 through FY 2031, with recommended rates anticipated to take effect on January 1, 2027, following the completion of Proposition 218 noticing and public hearing process

California's Chromium-6 (Hexavalent Chromium) Treatment Mandate

Hexavalent chromium, commonly called chromium-6, is an odorless and tasteless heavy metal that may be found in groundwater naturally or as a result of improper disposal of contaminated industrial waste. Studies have linked long-term exposure to a risk of cancer when ingested. In the Coachella Valley specifically, the presence of chromium-6 is not a product of industrial contamination. The rock, gravel, sands, and sediments that make up the Coachella Valley's groundwater aquifer naturally contain chromium-3, and through weathering and natural chemical reactions over extended periods, chromium-6 is naturally formed from chromium-3 and is present in low levels in the groundwater.

Regulatory History of Chromium-6

California first adopted a specific Maximum Contaminant Level (MCL) for chromium-6 in 2014, setting a limit of 10 parts per billion (ppb). That MCL was invalidated in 2017 through a court ruling that found the state had not adequately documented the economic feasibility of compliance. For the next seven years, chromium-6 was only indirectly regulated through the broader total chromium standard, which meant a water system could technically be in compliance even with relatively high chromium-6 levels as long as total chromium stayed below 50 ppb.

On April 17, 2024, the California State Water Resources Control Board voted to re-adopt a maximum contaminant level (MCL) of 10 parts per billion (ppb) for hexavalent chromium, after completing a new and more thorough economic feasibility analysis. The new MCL became effective October 1, 2024. California is the only state to set its own MCL specifically for chromium-6. The federal standard for total chromium used by other states is 100 ppb.

Community water systems were required to complete initial compliance sampling by April 1, 2025, and compliance plans are required within 90 days for any source that exceeds the MCL. The rule allows water systems up to three years to achieve compliance, with the timeline scaled by system size.

Implications for Coachella Water Authority

The chromium-6 mandate has a profound and system-wide impact on CWA. All six of CWA's active groundwater wells (Wells 11, 12, 16, 17, 18, and 19) draw from the East Whitewater River Subbasin of the Coachella Valley Groundwater Basin, and all six have average chromium-6 concentrations above the 10 µg/L MCL, with measured levels ranging from roughly 13 µg/L at Well 18 up to 22 µg/L at Well 17. A seventh well (Well 20), currently under development and expected online in 2028, is also anticipated to require treatment after testing. In short, CWA's entire groundwater supply portfolio requires treatment.

With over 9,255 service connections, CWA falls in the regulation's 1,000–9,999 connection category, which carried an initial compliance deadline of October 1, 2027. However, the passage of Senate Bill 466, which shields water systems from violation determinations while actively implementing a state board-approved compliance plan, has given CWA additional time to comply. CWA's compliance plan was accepted by the Division of Drinking Water on November 3, 2025, extending the effective construction completion deadline to July 3, 2031.

Following a technology evaluation and bench- and pilot-scale testing completed in 2025, CWA selected reduction coagulation filtration (RCF) as the preferred treatment technology for all impacted well sites. The RCF process works by adding a small dose of ferrous iron (ferrous chloride) to the raw water, which chemically reduces the soluble hexavalent chromium to the much less toxic trivalent form. The resulting chromium precipitate is then captured through filtration media before the water enters the distribution system. The existing sodium hypochlorite already used for disinfection at each well serves double duty as the oxidant in the RCF process, keeping the chemical systems relatively streamlined.

A Preliminary Design Report (PDR), prepared by Corona Environmental Consulting in collaboration with Water Works Engineers, establishes the design and operational parameters for RCF systems at each wellsite, along with conceptual capital and O&M cost estimates. The design targets a finished water chromium-6 concentration of 8 µg/L or less at the entry point to the distribution system, conservatively below the 10 µg/L MCL to provide a compliance buffer.

NewGen's study incorporates both the capital and operational costs of implementing the treatment plan developed in the Preliminary Design Report.

Section 1

Study Process

NewGen completed the study using a four-step process:

- **Revenue Requirements** – Development of the full cost of providing water service
- **Cost of Service** – Allocation of revenue requirements to customer classes or types of customers consistent with their demands on the system
- **Financial Plan** – Development of a financial plan to fund system revenue requirements considering current and future customers and demand
- **Utility Pricing** – Development of specific water rates consistent with the Cost-of-Service analysis and sufficient to generate revenue to meet the requirements of the Financial Plan

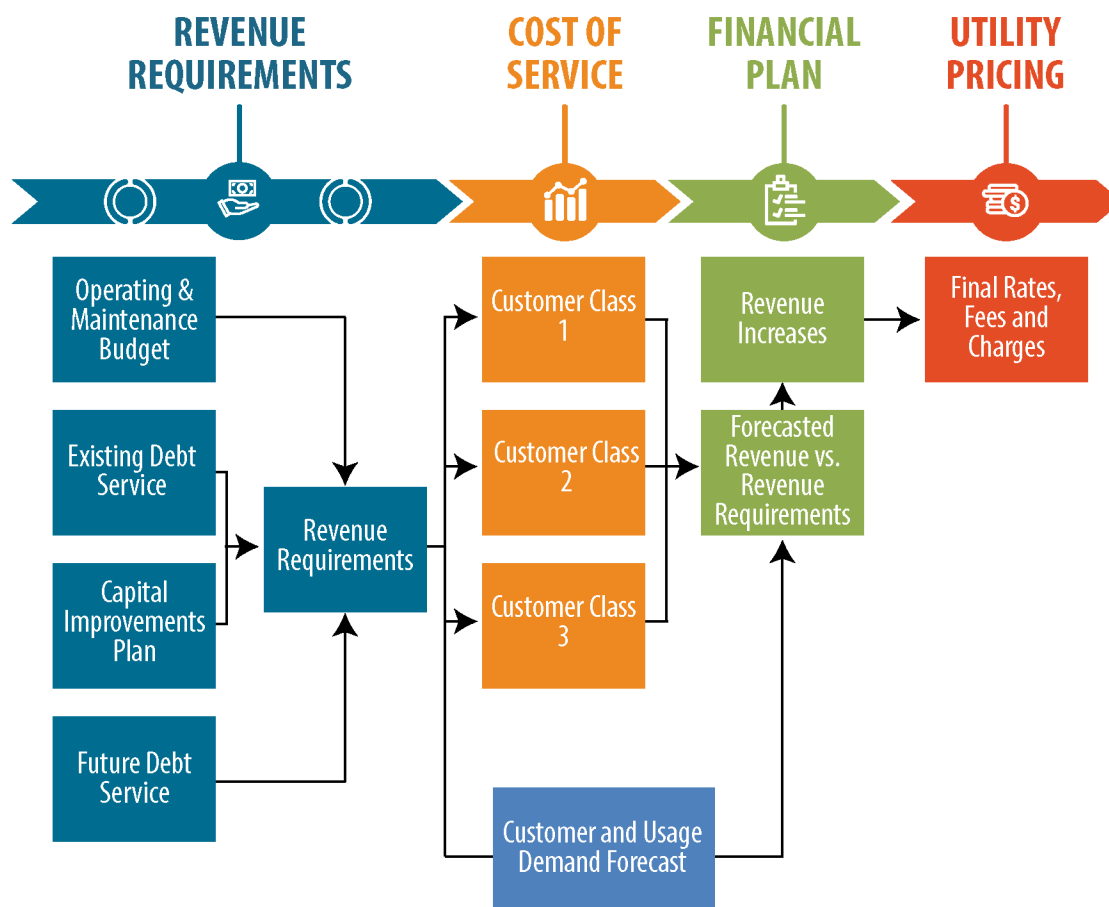


Figure 1-1. Cost of Service Study Process

This report details the information provided to NewGen to conduct the study and NewGen’s findings, conclusions, and recommendations regarding CWA’s water rates.

Section 2

REVENUE REQUIREMENTS

Operating and Maintenance Costs

The CWA's operating budget is organized into two broad functional divisions: Administration and Operations. Together they reflect the full scope of activities required to manage, maintain, and deliver water service within the City of Coachella's service area.

Administration

The Administration division handles the organizational, financial, legal, and regulatory overhead of running the utility. Its expenditure categories span several areas:

Staffing and Compensation includes salaries for regular full-time employees as well as part-time and temporary staff, standby and overtime pay, and benefit-related costs such as group health insurance, payroll tax obligations, and contributions to PERS (the California Public Employees' Retirement System). These costs reflect the management, billing, customer service, finance, and administrative personnel who keep the utility running day to day.

Professional and Legal Services covers contracted support that the authority does not staff internally, including City Attorney services (both general and special matters), professional and contract services for consulting or technical assistance, and merchant account fees associated with payment processing.

Regulatory and Franchise Obligations reflect the CWA's status as a utility operating within the City of Coachella. The budget includes a Franchise Fee Expense and an In Lieu Tax Expense, both of which represent payments to the City in lieu of the taxes and fees that a private utility would otherwise owe.

Overhead and General Expenses include communications, advertising, meetings, general office supplies, minor equipment, minor software, and dues and subscriptions.

Intergovernmental Transfers include a transfer to the City's General Fund representing a General Government Administration Fee representing the water utility's share of citywide overhead services such as HR, IT, and finance support.

Operations

The Operations division covers the hands-on, day-to-day work of physically producing and delivering water to customers.

Field Staffing includes the wages and benefits of the crews who operate and maintain the water system such as well operators, maintenance technicians, field supervisors, and related personnel. As with administration, this includes regular salaries, standby and overtime pay (particularly important for 24/7 operational coverage and emergency response), temporary staff, group insurance, payroll taxes, and PERS retirement contributions.

Repair and Maintenance Services covers the ongoing upkeep of the distribution system, including pipeline repairs, pump and well maintenance, valve exercising, hydrant maintenance, and general infrastructure preservation.

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Professional Services and Lab Fees reflect contracted technical support and the cost of water quality testing. Utilities are required under state and federal regulations to regularly test their water supply, and lab fees cover the analysis of samples collected throughout the system.

Energy Charges includes the electricity consumed by groundwater pumping. Extracting water from the aquifer and pressurizing it through the distribution system is highly energy-intensive, making electricity one of the dominant recurring costs of running a groundwater-based system.

Ground Water Replenishment reflects payments made for managed aquifer recharge, a practice where imported water or recycled water is injected into the ground to replenish the underlying groundwater basin. This is both an operational requirement and a water supply sustainability measure.

Equipment and Vehicle Costs cover the rental and use of equipment and vehicles necessary for field operations, including maintenance trucks, excavation equipment, and specialized tools.

Fuel is budgeted separately for the Water Department's vehicle fleet.

Communications and Supplies provide the operational infrastructure for field work, including radios or mobile communications used by crews, as well as the general supplies (fittings, pipe materials, lubricants, tools) consumed in day-to-day maintenance.

Computer Software supports operations-side systems, likely including work order management, asset management, or SCADA-adjacent software used to monitor and control the water system.

Manpower Study

In September 2023, Raftelis completed a Utility Operations Staffing Study for the City of Coachella's Utilities Department, evaluating both the Water Authority and Sanitary District across staffing levels, organizational structure, technology, and maintenance practices. Benchmarking against five peer utilities in southern California, including CVWD, Indio Water Authority, Mission Springs Water District, Desert Water Agency, and the City of Redlands, the study found that Coachella's ratios of customer accounts, pipeline miles, and wastewater volume per employee were consistently above peer averages, strongly indicating that the department was understaffed relative to its workload.

Raftelis issued nine recommendations spanning staffing additions, organizational restructuring, technology upgrades, and compensation, with the central staffing recommendation being the addition of 10 new full-time positions across both utilities, including a Chief Treatment/Distribution Operator for the Water Authority, three additional Water Operator I positions, four Wastewater Operator I positions, a shared Equipment Operator, and a shared SCADA/Instrumentation Technician.

Since the 2023 study, the City has implemented a phased-in plan to increase staffing levels consistent with the Staffing Study. NewGen's study includes additional new staff above and beyond the FY 2026 budgeted positions to bring the number of water staff to a level consistent with the Staffing Study.

Compensation Study

In August and September 2024, Arthur J. Gallagher & Co. (Gallagher) completed a Base Compensation Study for the City of Coachella covering 12 utility-related benchmark classifications including positions such as Water Superintendent, Water Distribution Operator, Senior Water Service Worker, SCADA/Instrumentation Technician, Assistant Engineer, and several wastewater roles. The study compared the City's salaries at that time against a defined labor market of comparable water and wastewater agencies in the region.

The central finding was that the City's base salaries were, on average, 12.2% below the market median. Gallagher considered this finding significant given its standard that salaries within 5% of the median are competitive. Nearly all surveyed classifications fell below market, with some positions lagging by 20% or more. Gallagher recommended a new salary schedule and proposed range placements for each classification aligned to market median data, with the intent of providing the City with a structured, defensible framework for closing the compensation gap over time and improving its ability to recruit and retain qualified utility staff.

The City has incorporated the recommendations of the Compensation Study into its budgets, and NewGen's study reflects labor costs consistent with the findings of the Compensation Study. The City's plan is to adjust salaries over three years, with FY 2027 being the second year and FY 2028 being the final year.

Chromium-6 Operating Costs

The Preliminary Design Report provides O&M cost estimates of the ongoing financial burden the RCF treatment program will impose on CWA's operations. The O&M costs are broken down into five categories, as follows:

- **Energy.** Each RCF system adds pumping load that does not exist today related to roughly 18–25 additional horsepower per wellsite, depending on flow, and results in additional electricity consumption at each location. At CWA's current electricity rate of \$0.114/kWh, the incremental annual energy cost per well ranges from roughly \$5,000 to \$9,000, depending on each well's utilization rate. Because CWA's wells operate at very different frequencies the energy impact varies substantially by wellsite.
- **Chemicals.** Two chemicals are consumed continuously by the RCF process: ferrous chloride (FeCl_2), the reducing agent that converts hexavalent chromium to its trivalent form, and sodium hypochlorite (NaOCl), the oxidant already used for disinfection that also drives the precipitation reaction. Ferrous chloride is dosed at approximately 1.13 mg/L, consuming about 12 pounds per day per well when operating at full design capacity. At \$0.50/lb, the annual ferrous chloride cost per well runs roughly \$4,000–\$14,000 depending on utilization. Sodium hypochlorite is used in small additional amounts, adding only a few thousand dollars annually. Combined chemical costs per well fall in the range of approximately \$5,000–\$14,000 per year.
- **Residuals Management (Backwash Disposal).** The filter vessels must be backwashed periodically to flush out accumulated chromium solids. For the six active wells discharging to the sanitary sewer, CWA negotiated a zero-dollar sewer discharge fee with the City of Coachella and the Valley Sanitation District, making backwash disposal essentially free from a direct-cost standpoint. The main residuals-related cost for sewer-discharge wells is a small water loss penalty resulting from the unrecovered backwash volume, which represents treated water that cannot be delivered to customers. At CWA's current water rate, this amounts to less than \$200 per well per year and is essentially negligible. Well 19 is the exception: its sewer capacity constraints require a recycle-backwash approach in which backwash water is recycled back through the system and the resulting concentrated solids are hauled off-site for disposal. This makes Well 19 significantly more expensive to operate than the other wells, adding tens of thousands of dollars annually in solids disposal costs that push its total O&M to \$173,000/year under the recommended design alternative, which is roughly 30–60% higher than the sewer-discharge wells.
- **Filter Media Replacement.** The granular media inside the filter vessels (sand, anthracite, and gravel) must be replaced approximately every ten years as it loses effectiveness. The PDR

Section 2

amortizes this cost on an annual basis. Disposal of spent media adds to the cost, at \$40 per cubic foot. The annualized media replacement cost per well ranges from approximately \$7,000 to \$10,000 depending on the number of vessels and media volumes involved.

- Personnel.** Each treatment system requires daily operator attention. The PDR budgets one person-hour per day for routine operations tasks (checking chemical feeds, conducting inspections, reviewing system readings), at an assumed labor rate of \$120/hour. This equates to approximately \$43,800 per year in operations personnel cost applied equally to all seven well sites, regardless of how often the well runs, since daily checks are required whether the well is operating or idle. In addition, management and regulatory compliance activities including reporting, sampling coordination, and regulatory interaction are estimated at one person-hour per week at \$180/hour, adding approximately \$9,360 per year per wellsite. Together, personnel costs are the largest single O&M cost category at every wellsite, comprising roughly half of each well's total annual O&M burden.
- Equipment Maintenance.** An annual maintenance allowance equal to 2% of major electrical and mechanical equipment value is included per wellsite, covering routine preventive maintenance on pumps, valves, instrumentation, and chemical feed equipment. This ranges from approximately \$44,000 to \$63,000 per well depending on the equipment inventory at each site.

Across all seven well sites under the recommended design alternatives, total annual O&M for chromium-6 treatment will increase existing operations by approximately \$891,000 per year once all systems are operational.

Table 2-1 shows the FY 2026 budget and a five-year forecast of operating and maintenance costs of CWA's system, including the impacts of the Compensation and Manpower studies.

Table 2-1
Operating and Maintenance Cost Forecast (000's)

Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Administration	\$2,139	\$796	\$819	\$844	\$869	\$894
Operations (Base FY 2026)	\$3,567	\$4,287	\$4,422	\$4,562	\$4,705	\$4,854
Manpower Study	\$0	\$286	\$535	\$714	\$736	\$760
Chrome-6 O&M	\$0	\$0	\$0	\$446	\$891	\$919
Transfers Out to General Fund	\$1,481	\$3,393	\$3,516	\$3,644	\$3,777	\$3,914
Transfers to Capital Reserve	\$0	\$0	\$1,500	\$3,500	\$1,500	\$1,250
Total O&M	\$7,187	\$8,762	\$10,793	\$13,708	\$12,478	\$12,591
\$ Change		\$1,575	\$2,031	\$2,916	(\$1,231)	\$113
% Change		21.9%	23.2%	27.0%	(9.0%)	0.9%

Debt Service

The Coachella Water Authority currently carries five debt and lease obligations with a combined annual debt service of approximately \$1.45 million in FY 2025, declining over time as individual instruments mature. The largest single obligation is the Water Refunding Bonds 2022B, which retires in FY 2033 and was issued alongside the Water Refunding Bonds 2022A as part of a 2022 refinancing of prior water

revenue bonds. The CWA also pays a Series 2020 Pension Obligation Bonds, which were issued to finance unfunded CalPERS liabilities. All three of these obligations carry both principal and interest components.

The fourth and final obligation is a Water System Lease, which carries a flat annual payment of approximately \$142k, running through at least FY 2058. All existing obligations are funded entirely through rates, with no connection fee revenues assigned to debt service. The total remaining debt service across all instruments is approximately \$21.5 million. Annual obligations remain relatively stable through FY 2032, then step down meaningfully after the 2022B bonds retire, falling to roughly \$616K–\$620K per year through the mid-2030s, and declining further thereafter as additional instruments mature.

Table 2-2
Annual Debt Service (000's)

Debt Obligation	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Series 2022A	\$349	\$353	\$352	\$350	\$348	\$351
Series 2022B	\$764	\$763	\$761	\$769	\$770	\$770
Series 2020	\$194	\$192	\$192	\$192	\$192	\$191
CWA Loan	\$142	\$142	\$142	\$142	\$142	\$142
Total Debt Service	\$1,449	\$1,451	\$1,447	\$1,453	\$1,452	\$1,455
\$ Change		\$2	(\$4)	\$6	(\$1)	\$3
% Change		0.1%	(0.3%)	0.4%	(0.0%)	0.2%

Planned Capital Improvements

CWA's capital improvement program can be categorized into three types:

- Developer Funded Expansion:** The City maintains a list of projects that would expand the CWA's service area. These projects include transmission and distribution main extensions, new Wells, and new water storage facilities. The total estimated costs of these projects is approximately \$100 million, and the timeline over which they may be completed extends past 2035. All of these projects would be Developer Funded, meaning that the City would not embark on them unless there was a commitment from a developer to fund 100% of the project cost, meaning none of these projects would incur a capital cost to the City's ratepayers. There will be some operational cost impacts resulting from these projects. However, given the uncertain timing for these projects, no additional operating costs have been included in this study. Therefore, NewGen's study does not include any additions to the revenue requirements attributable to Developer Funded expansion projects.
- Connection Fee Funded Expansion:** The City has several projects planned that will be funded with Connection Fee revenues and/or reserves (Fund 177). As of the end of FY 2025, the City held approximately \$10.8 million in Fund 177 reserves and anticipates an additional \$6.1 million in Connection Fee revenue through FY 2031. This results in approximately \$16.9 million in funds available for City funded expansion-related projects. The total estimated project cost for Connection Fee expansion projects is approximately \$14.6 million, resulting in an estimated end of FY 2031 Fund 177 reserve balance of \$2.2 million. Because these projects will be funded with Fund 177 reserves and revenues, they have no impact on the City's water ratepayers.
- Rehabilitation of Existing Assets:** During the study period, the City has several rehabilitation projects planned, including the re-lining of a 3.6-million-gallon (MG) reservoir, aging pipeline

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replacement, well rehabilitation, and SCADA system upgrades. These projects are assumed to be PAYGO funded, i.e., funded with ratepayer revenues as they are completed. The revenue requirement impact of these projects is included in NewGen's rate forecasts.

Chromium-6 Capital Improvements

The City selected Alternative 2 from the PDR as the preferred method to treat Chromium-6. Alternative 2 is the lower-cost, smaller-footprint Reductive Chromium Filtration (RCF) treatment approach, using a higher hydraulic loading rate of 7 gpm/ft². The following improvements are required at each site:

- New well pump (2,000 gpm, size varies by site)
- One (1) reduction vessel: 8.0 ft diameter × 21 ft side shell horizontal baffled vessel
- 24 filtration vessels (vs. 32 in Alt. 1): 4 ft diameter × 5 ft tall vertical vessels on a 28 ft × 22 ft concrete slab
- Chemical feed & storage: 300-gal ferrous chloride tank and feed pump, sodium hypochlorite feed pump, chemical conduit and injection points (2×), static mixer
- Site fencing: New 8-ft CMU block wall with sliding gate

Some of the sites also have specific improvement needed, as summarized below

Table 2-3
Preliminary Site Specific Chromium-6 Improvement Summary

Well	Backwash	Tank	Notes
Well 11	Direct to Sewer	None	Demolish/replace existing fencing; reroute existing watermain
Well 12	EQ to Sewer	14,000-gal	Existing NaOCl storage sufficient
Well 16	EQ to Sewer	EQ Tank	New well pump TDH TBD
Well 17	EQ to Sewer	EQ tank	Highest loading rate of all sites
Well 18	Direct to Sewer	None	Smaller footprint vs. Alt. 1
Well 19	Backwash Recycle	Reclamation tank	No sewer connection needed; off-site sludge hauling required
Well 20	EQ to Sewer	24,000-gal	Infiltration basin; transformer; new building

Based on the improvements necessary at each site, the total capital costs for Chromium-6 improvements are shown in Table 2-4.

Table 2-4
Summary of Chromium-6 Capital Costs (000's)

Well	Chrome-6 Capital
Well 11	\$6,700
Well 12	\$6,300
Well 16	\$7,100
Well 17	\$6,500
Well 18	\$7,000
Well 19	\$6,700
Well 20	\$8,800
Design for all Wells	\$5,000
Total	\$54,100

Financing of Chromium-6 Improvements

Three primary funding pathways to funding the Chromium-6 improvements are available to the City:

Self-Funded (Revenue Bonds): The City can finance the full cost of improvements through the issuance of revenue bonds backed by water rate revenues. This approach results in the highest annual debt service cost and the largest corresponding impact on customer rates, as ratepayers bear 100% of the capital cost.

Drinking Water State Revolving Fund (DWSRF) – Low-Interest Loan: The DWSRF program, administered by the State Water Resources Control Board, provides low-interest loans (typically 1–2%) for qualifying drinking water infrastructure projects. A DWSRF loan would cover up to 100% of eligible project costs and would significantly reduce the City's annual debt service compared to conventional bond financing. However, it requires the City to demonstrate financial capacity, including adopted rates, before a complete financing package can be submitted.

DWSRF – Principal Forgiveness: As a Disadvantaged Community (DAC), the City of Coachella may qualify for principal forgiveness on a portion of its DWSRF loan, effectively converting part of the loan into a grant that does not need to be repaid. This represents the most favorable form of financial assistance available and could meaningfully reduce the total cost burden on ratepayers. Principal forgiveness is competitive and subject to availability of funding in each DWSRF cycle.

NewGen's rate study and financial model assume the City receives no grant funding and will self-fund 100% of the Chromium-6 capital costs through revenue bond debt service. This conservative assumption was necessary because the DWSRF application process requires adopted rates as a prerequisite, meaning the City cannot submit a complete financing package until a Proposition 218 process has been completed and new rates are in effect. Any principal forgiveness or favorable loan terms subsequently obtained would reduce the revenue requirement below what the adopted rates are designed to recover, providing the City with future financial flexibility.

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Miscellaneous Revenues

Each year, CWA records revenues other than those generated by its user rates. To determine the appropriate amount of rate revenue required each year, these revenues offset the total revenue requirement of the system. These revenues are as follows:

- **Groundwater Replenishment Revenue:** CWA receives payments for groundwater replenishment activities performed by CVWD which are then used to pay CVWD. This pass through revenue is budgeted at \$550,000 in FY 2026 and \$570,000 annually from FY 2027 onward, held flat thereafter throughout the study period.
- **Other Charges / Other Revenue:** Miscellaneous operating revenues, including other charges for service and other revenue line items, are projected at a combined \$100,000 in FY 2026 and \$72,500 per year from FY 2027 onward, reflecting items such as service charges and incidental fees not captured in base rate revenue.
- **Turn-On Fees:** Revenues from water service turn-on/reconnection fees were budgeted at \$20,000 in FY 2026 and are projected at \$21,500 annually from FY 2027 onward.
- **Interest Income:** Interest earnings on CWA fund balances are projected at \$60,000 per year throughout the study period.

Table 2-5 summarizes the offsetting revenue forecast, which totals \$729,000 per year from FY 2027 onward.

Table 2-5
Miscellaneous Revenue Forecast (000's)

Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Ground Water Replenishment	\$550	\$570	\$570	\$570	\$570	\$570
Other Charges / Revenues	\$100	\$72	\$72	\$72	\$72	\$72
Turn-On Fees	\$20	\$22	\$22	\$22	\$22	\$22
Interest Income	\$0	\$60	\$60	\$60	\$60	\$60
Total Misc. Revenue	\$670	\$724	\$724	\$724	\$724	\$724
\$ Change		\$54	\$0	\$0	\$0	\$0
% Change		8.1%	0.0%	0.0%	0.0%	0.0%

Revenue Requirement Forecast

Given the operating and capital costs detailed in this report, NewGen developed the five-year revenue requirement forecast shown in Table 2-6 below.

Table 2-6
Revenue Requirement Forecast (000's)

Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Operating Costs	\$7,187	\$8,762	\$10,793	\$13,708	\$12,478	\$12,591
Existing Debt Service	\$1,449	\$1,451	\$1,447	\$1,453	\$1,452	\$1,455
Future Debt Service	\$0	\$0	\$0	\$0	\$2,517	\$2,517
PAYGO Capital	\$0	\$3,950	\$2,700	\$500	\$0	\$0
Total Rev. Req.	\$8,636	\$14,163	\$14,940	\$15,661	\$16,447	\$16,563
Less: Misc. Revenues	(\$670)	(\$724)	(\$724)	(\$724)	(\$724)	(\$724)
Net Rev. Req.	\$7,966	\$13,439	\$14,216	\$14,937	\$15,723	\$15,839
<i>\$ Change</i>		\$5,473	\$777	\$721	\$786	\$116
<i>% Change</i>		68.7%	5.8%	5.1%	5.3%	0.7%

Section 3

COST OF SERVICE AND RATE DESIGN ANALYSIS

Proposition 218

California's Proposition 218, formally titled the "Right to Vote on Taxes Act," was approved by California voters on November 5, 1996, and became effective on November 6, 1996. The measure added Articles XIII C and XIII D to the California Constitution, significantly expanding the fiscal protections first established by Proposition 13 (1978) and later extended by Proposition 62 (1986). The measure fundamentally restructured the procedural and substantive requirements governing how local agencies including cities, counties, special districts, and water agencies may impose, extend, or increase property-related fees and charges. For water utilities, Proposition 218 represents the primary constitutional framework within which rates must be established and adjusted.

Scope and Applicability

Article XIII D applies to "property-related fees and charges", defined as any levy other than an ad valorem tax, special tax, or assessment imposed by an agency upon a parcel or upon a person as an incident of property ownership. Water, sewer, and solid waste service charges have been explicitly recognized by both the California Legislature and the courts as property-related fees subject to Article XIII D's requirements.

The provisions of Proposition 218 apply to all local agencies, as defined to include any county, city, city and county, school district, special district, authority, agency, and any other municipal public corporation or district. As a water agency, the Coachella Water Authority is fully subject to the requirements of Article XIII D in setting and adjusting its water service rates and charges.

Substantive Rate-Setting Requirements

Article XIII D, Section 6 establishes five substantive legal requirements that property-related fees and charges must satisfy. These requirements define the constitutional bounds of lawful rate-setting authority:

- Revenues shall not exceed the funds required to provide the property-related service. The total revenue collected from a fee or charge may not exceed the reasonable cost of providing the service for which the fee is imposed. This is commonly referred to as the "revenue sufficiency" or "cost-of-service" requirement.
- Revenues shall not be used for any purpose other than that for which the fee or charge was imposed. Rate revenues collected from water customers must be dedicated exclusively to the provision of water service and may not be diverted to general fund purposes or unrelated programs.
- The amount of a fee or charge imposed upon any parcel or person shall not exceed the proportional cost of the service attributable to the parcel. Individual rates must bear a reasonable relationship to the cost of serving each class of customer or parcel. This "proportionality" requirement underlines the cost-of-service methodology used in a properly structured rate study.

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- No fee or charge may be imposed for a service unless that service is used by, or immediately available to, the owner of the property in question. Rates may not be imposed on parcels that have no access to or use of the service.
- No fee or charge may be imposed for general governmental services including, but not limited to, police, fire, ambulance, or library services, where the service is available to the general public in substantially the same manner as it is to property owners. Water rates are clearly tied to a specific, metered service and are not implicated by this provision under normal circumstances.

These substantive requirements are central to the analytical framework of any rate study conducted under California law, and they directly inform the cost-of-service and rate design methodologies employed in this report.

The rate study presented in this report has been designed and conducted in full compliance with the requirements of Article XIII D of the California Constitution. The cost-of-service analysis allocates revenues and costs in a manner consistent with the proportionality requirement; rate revenues are structured to fund only those services provided to ratepayers; and the proposed rates do not exceed the reasonable cost of providing water service. Prior to adoption of any rates recommended herein, CWA will conduct the required Proposition 218 noticing and protest hearing process in accordance with applicable law, providing all affected parcel owners not less than 45 days' written notice and the opportunity to file written protests.

Cost of Service Process

The cost-of-service allocation is the analytical foundation of cost-based rate setting. The purpose of this analysis is to distribute the system's total revenue requirement among its customer classes in proportion to the costs each class imposes on the system. This methodology follows the industry-standard approach described in the American Water Works Association (AWWA) Manual of Water Supply Practices M1 — Principles of Water Rates, Fees, and Charges (Manual M1) and is widely recognized in utility ratemaking practice, including in legal and regulatory proceedings where the cost basis of rates is subject to scrutiny.

The allocation process consists of three steps: (1) functionalization of costs, (2) allocation of functionalized costs to demand components, and (3) distribution of costs to customer classes based on units of service. Each step is described in detail below.

Step 1: Functionalization of Costs

The first step is to assign the utility's total Test Year revenue requirement — comprising operating expenses (OPEX) and annualized capital costs (CAPEX) — to the discrete functions of the water system. A function represents a distinct operational activity or physical component of the system that serves a specific and identifiable purpose. Common water system functions include:

- **Supply & Treatment** — costs associated with pumping groundwater and treating it to meet regulatory and quality standards.
- **Transmission & Distribution** — costs associated with the pipe network that conveys water from treatment to the customer meter.
- **Meter Services** — costs associated with customer meters, including installation, maintenance, and replacement.

- **Customer Service & Billing** — costs associated with customer accounts, meter reading, billing, collections, and related administrative functions.

For operating costs, functionalization is accomplished by reviewing each budget line item and attributing it to the function(s) it supports. For capital costs, functionalization is based on the Replacement Cost New Less Depreciation (RCNLD) of the utility's asset inventory, which values each asset category and assigns it to the appropriate system function. The result of this step is a complete accounting of the revenue requirement organized by system function rather than by budget category.

Step 2: Allocation of Functionalized Costs to Demand Components

Once costs have been organized by function, each function's costs are allocated to one or more demand components — also referred to as cost causation components. This step is the conceptual heart of the M1 methodology, as it links the cost of each function to the specific characteristic of customer demand that drives the need for that function.

Manual M1 identifies the following primary demand components for water service:

- **Base Demand** represents the cost of serving customers as if all demand were perfectly uniform throughout the year — that is, at the system's average daily demand rate. Functions whose costs are driven by average throughput rather than peaks are allocated primarily or entirely to this component. Source of supply and treatment costs, for example, are largely base-driven because the total volume of water produced over a year is the primary cost driver, regardless of when that water is delivered.
- **Maximum Day (Extra Capacity)** represents the cost of building and maintaining the additional capacity needed to meet the single highest-demand day of the year above the system average. Because a water system must be sized to meet peak conditions — not just average conditions — the infrastructure required to serve peak day demand represents a real and quantifiable cost increment above what would be needed to serve base demand alone. Distribution mains, inter-connect facilities, and a significant portion of storage capacity are typically allocated to this component, because these assets must be sized for peak day delivery.
- **Maximum Hour (Extra Capacity)** represents the cost of capacity required to meet the peak hour of demand — the single highest hourly demand experienced system-wide, typically during a summer morning. This demand layer, which sits atop the maximum day demand, drives the sizing of local distribution lines, booster pumping stations, and pressure zone storage. The extra capacity above maximum day requirements is allocated here.
- **Customer Service** represents costs that are incurred on a per-account basis, independent of how much water a customer uses or when they use it. Billing and collection, meter reading, customer service staffing, and meter infrastructure costs fall into this component. These costs are driven by the number of customer accounts (connections), not by volume or peak demand.

The allocation of each function to these demand components requires professional judgment grounded in an understanding of utility engineering and operations. Many functions are allocated across multiple components in proportion to how their costs are driven by each demand characteristic. For example, treatment costs may be allocated across base and maximum day components in recognition that treatment serves both purposes. The goal is to ensure that every dollar of cost is traced to the demand characteristic that causes it.

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Step 3: Distribution of Costs to Customers

With the total revenue requirement now organized by demand component, the final step is to allocate each component's costs to customers in proportion to their contribution to that component of system demand. This is accomplished through the development of units of service for each demand component. Note that the City currently does not charge different rates by customer class. NewGen is not recommending that they do so. For the purpose of this step in the cost of service, each cost/demand component is calculated on a system wide basis.

Units of service are measurable, data-based representations of each class's demand on the system. They are derived from billing records, meter data, and system operating data, and are developed consistently for the system as a whole. The following units of service correspond to each demand component:

- **Customer** component units of service are each class's share of total system connections, typically expressed in equivalent meter units (EMUs) that weight larger meters to reflect their greater potential instantaneous demand and associated service complexity.
- **Base** component units of service are each class's share of total system average day demand, expressed in million gallons per day (MGD). A class that accounts for 45% of system average day consumption is allocated 45% of base component costs.
- **Maximum Day** component units of service are each class's share of the system's peak day demand in excess of average day demand. Classes with high seasonal or daily demand variability — such as irrigation customers — will exhibit higher peaking factors and therefore contribute disproportionately to maximum day demand relative to their average usage. These classes are accordingly allocated a greater share of maximum day costs.
- **Maximum Hour** component units of service are each class's share of the system's peak hourly demand in excess of maximum day demand. Peak hour contributions are similarly driven by demand variability patterns, and classes with the most pronounced intra-day peaks bear a proportionally greater share of maximum hour costs.

The allocation of costs to customer is the mathematical intersection of the unit cost for each demand component (total component cost ÷ total system units of service for that component) and component's units of service. The result is a dollar-denominated cost of service for each demand component. The sum across all components represents the total cost the system incurs in providing service for that component during the Test Year.

This cost allocation does not predetermine rate levels; rather, it establishes the cost-based benchmark against which existing revenues can be compared and against which proposed rates can be designed and evaluated.

The transparency and rigor of this three-step process (functionalization, allocation to demand components, and distribution by units of service) is what gives the M1 methodology its legal and regulatory credibility. Each cost is traceable from the revenue requirement through to the customer class that causes it, ensuring that rates reflect the actual cost of service rather than arbitrary or cross-subsidized determinations.

Cost of Service And Rate Design Analysis

Test Year

The cost-of-service Test Year is set to FY 2030 to account for Chromium-6 debt service and operating costs.

Functionalization

Table 3-1 shows the results of NewGen's cost of service study functionalization of the forecasted FY 2030 Test Year. Detail supporting the functionalization is provided in Appendix B. The dollar amounts shown in Tables 3-1 through 3-4 establish the relative allocation of costs among functions and demand components; they are used to derive the allocation percentages applied to the FY 2030 revenue requirement and do not themselves sum to the revenue requirement recovered from rates.

Table 3-1
Test Year Functionalization

FY 2030 Revenue Requirement	\$	%
Transmission/Distribution	\$2,973,500	18.9%
Supply/Treatment	\$5,332,830	33.9%
Customer	\$1,077,967	6.9%
Meter	\$1,751,675	11.1%
Chrome 6 Treatment	\$4,587,089	29.2%
Total TY 2030	\$15,723,061	100.0%

Allocation

NewGen allocated the Test Year 2030 functionalized revenue requirement to fixed and variable components as summarized in Table 3-2. Detail supporting the allocations are provided in Appendix C.

Table 3-2
Test Year Allocation

	Total	Fixed Charge		Variable Charge		
Component		Customer	Meter Services	Base	Max Day	Max Hour
Transmission/Distribution	\$2,973,500	\$0	\$0	\$1,123,291	\$363,459	\$1,486,750
Supply/Treatment	\$5,332,830	\$0	\$0	\$4,029,136	\$1,303,694	\$0
Customer	\$1,077,967	\$1,077,967	\$0	\$0	\$0	\$0
Meter	\$1,751,675	\$0	\$1,751,675	\$0	\$0	\$0
Chrome 6 Treatment	\$4,587,089	\$0	\$0	\$3,465,703	\$1,121,385	\$0
Total Test Year	\$15,723,061	\$1,077,967	\$1,751,675	\$8,618,130	\$2,788,538	\$1,486,750
<i>% Allocation</i>		6.9%	11.1%	54.8%	17.7%	9.5%

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Distribution

The City does not differentiate between customer classes in its rate structure. NewGen is recommending that the City continue to have a single rate structure that applies to all customers with a fixed, meter-sized component and a variable usage-based component. Therefore, the final step in the cost of service is to assign fixed and variable costs to meters and billed volumes.

Assignment of Costs to Monthly Charges

Table 3-3 shows the detail supporting the distribution of fixed costs to customer meters. There are two components to the monthly fixed costs:

- Customer related costs are assigned on a per-meter basis that is the same for all meter sizes, reflecting the fact that customer related costs such as billing, customer service, postage, and administrative costs do not depend on the size of a customer's meter.
- Meter related costs are scaled by each meter's capacity to reflect that these costs are associated with the level of service (i.e., capacity) provided to each meter. These costs are fixed, but they scale with the potential flow that each meter is capable of pulling from the system.¹

Table 3-3
Fixed Charge Calculation

	Customer		Meter		Total Fixed Charge
Cost	\$1,077,967		\$1,751,675		
Basis	Per Bill		Meter Flow Capacity		
Fee per	\$10.37		\$12.65		
Meter Size (inches)	Ratio	Fee per	Ratio	Fee per	Total Fee
¾	1.00	\$10.37	1.00	\$12.65	\$23.02
1	1.00	\$10.37	1.67	\$21.08	\$31.45
1 ½	1.00	\$10.37	3.33	\$42.15	\$52.52
2	1.00	\$10.37	5.33	\$67.45	\$77.82
3	1.00	\$10.37	11.67	\$147.54	\$157.91
4	1.00	\$10.37	20.00	\$252.93	\$263.30
6	1.00	\$10.37	45.00	\$569.09	\$579.46
8	1.00	\$10.37	53.33	\$674.47	\$684.84

Assignment of Costs to Volumetric Rates

NewGen developed volumetric rates as an increasing three-tier block rate, with each tier priced to reflect the marginal cost of the system capacity required to serve demands at that level. The rate design follows the AWWA Manual M1 base/extra capacity cost allocation methodology, which organizes total system costs into three functional components — Base, Max Day, and Max Hour — and assigns those costs to tiers in proportion to the hydraulic demand obligations associated with each tier.

¹ Flow ratios are based on AWWA flow ratios provided in AWWA Manual M1, Table C-2 at page 340, C715 Electro-magnetic and Ultrasonic Type I.

Cost of Service And Rate Design Analysis

Base costs represent the infrastructure and operations required to meet continuous average-day demand. Because every unit of water delivered draws on this base capacity, the Base cost component is recovered uniformly across all three tiers at a flat per-unit rate.

Max Day costs represent the additional capacity CWA must maintain to meet peak daily demands above the annual average. This capacity is not utilized year-round; it is sized for the highest single-day demand the system must be capable of serving. Customers consuming at this level drive the need for this peak capacity, so the Max Day cost is assigned across tiers at rates that increase in proportion to CWA's system-wide Max Day peaking factor.

Max Hour costs represent the further increment of capacity required to meet peak hourly demands above the Max Day level. This is the most expensive and least-utilized tier of capacity in the system. Because only the highest-use customers drive hourly peaking requirements, the Max Hour cost component is assigned in proportion to the Max Hour peaking factor, which results in the most pronounced cost differential at Tier 3.

The tier multipliers applied to the Max Day and Max Hour components are derived directly from CWA's observed demand characteristics. The system's Max Day demand equals 1.3236 times the Average Day demand, and Max Hour demand equals 2.6471 times the Average Day. These ratios become the relative cost weights applied to Tier 2 and Tier 3, respectively, such that the rate structure reflects the proportional capacity burden each tier of consumption imposes on the system. The detailed derivation of these peaking ratios and the underlying billing determinants supporting the tier volume assignments are presented in Appendix D.

The resulting FY 2030 revenue requirement allocated to each cost component, and the final rates produced by this allocation, are shown in the tables below.

Table 3-4
Summary of Variable Charge Cost Components

Test Year Cost of Service	
Base	\$8,618,130
Max Day	\$2,788,538
Max Hour	\$1,486,750
Total	\$12,893,419

Table 3-5
Test Year Volumetric Tiers

Tier	Usage	Test Year Volume	%
Tier 1	0 – 8 HCF/month	760,326	23.9%
Tier 2	9 – 17 HCF/month	619,684	19.5%
Tier 3	Over 17 HCF/month	1,802,079	56.6%
Total		3,182,089	100.0%

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Table 3-6
Test Year Rate Calculation

Cost Component	Tier 1	Tier 2	Tier 3
Base	\$2.71	\$2.71	\$2.71
Max Day	\$0.44	\$0.58	\$1.16
Max Hour	\$0.23	\$0.31	\$0.62
Final Rate (\$/HCF)	\$3.38	\$3.60	\$4.49

The Tier 2 rate exceeds the Tier 1 rate by approximately 6.4 percent, reflecting the additional Max Day and Max Hour capacity costs attributable to mid-range demand. The Tier 3 rate exceeds Tier 1 by approximately 32.8 percent, capturing the full cost of providing peak hourly capacity to the highest-use customers. Each tier's rate recovers only its proportional share of actual system costs, consistent with the requirements of Proposition 218 and the cost-of-service principles established in AWWA Manual M1.

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CASH FLOW AND FUND BALANCE FORECASTS

The rates developed by NewGen result in the financial sustainability of the City's water system based on forecasted cash flows, reserves, and debt service coverage as described below.

Cost of Service Based Rates Forecast

Because the cost of service analysis shown in Section 3 was developed based on a Test Year 2030 revenue requirement, reflecting the future cost structure of the City's water system, those allocation percentages can be applied to the revenue requirement of each fiscal year in NewGen's five-year forecast. In this manner, the rates developed in each fiscal year reflect the underlying cost of service analysis developed for the Test Year. Table 4-1 demonstrates the calculation of each fiscal year's rates based on the cost-of-service analysis described in this report for Test Year 2030.

Table 4-1
Cost of Service Based Rate Forecast - Monthly

	Effective January 1, 2027	Effective January 1, 2028	Effective January 1, 2029	Effective January 1, 2030	Effective January 1, 2031
<u>Monthly Meter Charge</u>					
¾	\$19.67	\$20.81	\$21.87	\$23.02	\$23.19
1	\$26.88	\$28.43	\$29.88	\$31.45	\$31.68
1 ½	\$44.89	\$47.49	\$49.90	\$52.52	\$52.91
2	\$66.51	\$70.36	\$73.93	\$77.82	\$78.39
3	\$134.97	\$142.77	\$150.02	\$157.91	\$159.07
4	\$225.04	\$238.06	\$250.14	\$263.30	\$265.23
6	\$495.27	\$523.91	\$550.50	\$579.46	\$583.72
8	\$585.34	\$619.19	\$650.62	\$684.84	\$689.88
<u>Volumetric Rate per HCF</u>					
Tier 1: 0 – 8 HCF	\$2.89	\$3.06	\$3.21	\$3.38	\$3.41
Tier 2: 9 – 17 HCF	\$3.08	\$3.25	\$3.42	\$3.60	\$3.63
Tier 3: Over 17 HCF	\$3.84	\$4.06	\$4.27	\$4.49	\$4.52

Reserve Analysis

Reserves are the financial foundation of a sustainable utility. As the AWWA Rates and Charges Committee states in its 2018 Cash Reserve Policy Guidelines whitepaper, "the level of reserves maintained by a utility is an important component of short and long-term financial management, and is a key consideration in the rate-setting process." Without adequate reserves, a utility is exposed to unplanned service

Section 4

disruptions, budget shortfalls during revenue downturns, emergency capital outlays, and debt covenant violations, which can harm service delivery and creditworthiness.

For CWA, reserves serve a particularly important role given the significant capital investment horizon ahead, including the Chromium-6 improvements, ongoing CIP needs, and the scale of transmission and storage infrastructure in the system.

Multiple national organizations publish reserve adequacy guidelines, and NewGen used these as the benchmarking framework for CWA. The principal guidance sources are:

American Water Works Association (AWWA)

AWWA's guidance frames reserves in terms of purpose rather than a single metric, recognizing that utilities should maintain: (1) an operating reserve to buffer revenue volatility and cash timing mismatches; (2) a capital/renewal and replacement reserve to fund infrastructure repair and replacement on a pay-as-you-go (PAYGO) basis; and (3) a debt service reserve when bonds are outstanding. AWWA does not prescribe a single minimum number of days but instead encourages utilities to establish policies tailored to their risk profile, system age, and capital needs.

Government Finance Officers Association (GFOA)

GFOA recommends that governments and utilities maintain a minimum unrestricted operating reserve equal to no less than 45 days of total annual operating expenses. This is one of the more commonly cited hard-floor benchmarks in municipal utility rate-setting. At CWA's FY 2026 budgeted total expenditure level of approximately \$10 million, 45 days of total expenses translates to roughly \$1.2–\$1.4 million in minimum operating reserves.

Water Environment Federation (WEF)

WEF recommends a range of 30 to 90 days of O&M costs, which reflects the wider variability in utility size, system complexity, and service area characteristics. For a system with CWA's approximate annual O&M cost profile, the WEF range produces a minimum floor of roughly \$900,000 to \$2.7 million.

International City/County Management Association (ICMA)

ICMA recommends reserves equal to 30 to 60 days of total expenses, which for CWA produces an estimated range of approximately \$800,000 to \$1.6 million.

The table below summarizes these benchmarks as they apply to CWA based on its current expenditure levels:

Table 4-2
Reserve Policy Guideline Summary

Association	Basis	Range for CWA
AWWA	Risk-adjusted, multi-fund framework	Policy-dependent
GFOA	45 days of total expenses	\$1.2 – \$1.4M
WEF	30–90 days of O&M	\$0.9 – \$2.7M
ICMA	30–60 days of total expenses	\$0.8 – \$1.6M

NewGen's approach is consistent with industry best practice and provides transparency to ratepayers and governing boards. The reserve categories NewGen modeled for CWA are an Operating and Capital reserve.

Cash Flow and Fund Balance Forecasts

Operating Reserve

This reserve covers cash timing mismatches, unexpected O&M cost spikes, or a short-term shortfall in rate revenues (e.g., due to an unusually dry or wet year affecting demand). NewGen targets this reserve at a level equivalent to 90 days of total annual operating expenses. This is a moderate, defensible position that does not overburden ratepayers with excess reserve accumulation while still meeting all industry minimum thresholds.

Capital Project Reserve

For major capital improvements not funded by debt or grants, CWA may accumulate a capital project reserve. This reserve is distinct from R&R and is intended to pre-fund project construction costs or to reduce the amount of debt issuance needed, thus lowering long-term interest expense. NewGen targets this reserve at a level equivalent to 30 days of average PAYGO capital projects over a ten-year horizon.

Debt Service Coverage Ratio

The Debt Service Coverage Ratio (DSCR) measures a utility's ability to meet its annual debt obligations from operating revenues. It is calculated as:

$$\text{Net Revenues Available for Debt Service} \div \text{Total Annual Debt Service Requirements}$$

Net revenues are determined by taking total operating revenues and subtracting operating and maintenance (O&M) expenses (excluding the Government/General Fund administrative transfer in CWA's case). The resulting figure represents the cash available to cover principal and interest payments on outstanding debt.

Table 4-3
Cash Flow Forecast at Recommended Rates (000's)

Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Total Revenues	\$7,289	\$10,753	\$14,551	\$15,301	\$16,054	\$16,505
Total Expenses	\$8,636	\$14,163	\$13,440	\$14,161	\$14,947	\$15,313
Contribution to Reserves	\$0	\$0	\$1,500	\$1,500	\$1,500	\$1,250
Total Rev. Req.	\$8,636	\$14,163	\$14,940	\$15,661	\$16,447	\$16,563
Water Fund Cash Flow	(\$1,347)	(\$3,410)	\$1,111	\$1,140	\$1,107	\$1,192
Beginning Fund Balance	\$6,423	\$5,077	\$1,667	\$2,778	\$3,918	\$5,025
Net Cash Flow	(\$1,347)	(\$3,410)	\$1,111	\$1,140	\$1,107	\$1,192
Ending Fund Balance	\$5,076	\$1,667	\$2,778	\$3,918	\$5,025	\$6,217
Recommended Balance	\$1,827	\$2,215	\$2,716	\$3,435	\$3,132	\$3,159
Over / (Under)	\$3,249	(\$548)	\$62	\$483	\$1,893	\$3,058
DSCR (1.10x Required)	0.07x	1.37x	3.63x	2.13x	1.28x	1.30x

Section 5

CUSTOMER BILL IMPACTS

The rates NewGen has calculated will have different impacts on different customers within the City's service area depending on their meter size and their level of monthly usage. This section demonstrates the changes in sample customer bills and how the City's typical residential water bill will compare to other regional utilities in FY 2028.

Sample Customer Bills

Table 5-1 shows the changes in bills resulting from NewGen's recommendations for the average customer in six categories:

Table 5-1
Sample Customer Bills

	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
SFR						
Average Use - 21 HCF	\$45.30	\$85.83	\$90.80	\$95.41	\$100.42	\$101.16
3/4" Meter	\$ Change	\$40.53	\$4.96	\$4.61	\$5.02	\$0.74
	% Change	89.5%	5.8%	5.1%	5.3%	0.7%
MFR						
Average Use - 27 HCF	\$54.30	\$108.86	\$115.16	\$121.00	\$127.37	\$128.30
3/4" Meter	\$ Change	\$54.56	\$6.30	\$5.84	\$6.37	\$0.94
	% Change	100.5%	5.8%	5.1%	5.3%	0.7%
Commercial (Low)						
Average Use - 58 HCF	\$103.35	\$227.84	\$241.01	\$253.24	\$266.57	\$268.53
3/4" Meter	\$ Change	\$124.49	\$13.18	\$12.23	\$13.32	\$1.96
	% Change	120.5%	5.8%	5.1%	5.3%	0.7%
Commercial (Medium)						
Average Use - 142 HCF	\$268.17	\$597.06	\$631.59	\$663.64	\$698.55	\$703.69
2" Meter	\$ Change	\$328.89	\$34.53	\$32.06	\$34.91	\$5.13
	% Change	122.6%	5.8%	5.1%	5.3%	0.7%
Commercial (High)						
Average Use - 369 HCF	\$642.72	\$1,468.27	\$1,553.18	\$1,632.01	\$1,717.86	\$1,730.49
2" Meter	\$ Change	\$825.55	\$84.91	\$78.83	\$85.85	\$12.63
	% Change	128.4%	5.8%	5.1%	5.3%	0.7%

Section 5

**Table 5-1
Sample Customer Bills**

	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Institutional						
Average Use - 50 HCF	\$116.37	\$243.97	\$258.08	\$271.18	\$285.44	\$287.54
2" Meter	\$ Change	\$127.60	\$14.11	\$13.10	\$14.27	\$2.10
	% Change	109.7%	5.8%	5.1%	5.3%	0.7%

Regional Bill Comparison

NewGen developed a side-by-side comparison of CWA's typical monthly residential water bill against 18 neighboring and regionally comparable water utilities in Southern California. Bills are calculated at a usage level of 21 HCF (approximately 15,709 gallons) per month for a 3/4-inch meter, allowing for an apples-to-apples comparison across agencies with differing rate structures, billing frequencies, and rate units. Table 5-2 summarizes the population and effective date of the rates used in the comparison.

**Table 5-2
Regional Water Agencies**

	Population Served	Rates Effective
City of Coachella (Current FY 2026)	43,590	Jul 2015
City of Coachella (Estimated FY 2028)	43,590	Jul 2027
Indio Water Authority	93,057	Jan 2028
Coachella Valley Water District	320,000	Jul 2025
Beaumont-Cherry Valley Water District	58,463	Jan 2028
City of Norco	25,398	Jul 2027
Mission Springs Water District	43,200	Feb 2026
City of Blythe	18,045	Jan 2026
City of Riverside	318,858	Jul 2027
City of San Jacinto	55,440	Jul 2023
Jurupa Community Services District	35,000	Jan 2028
Temescal Valley Water District	21,150	Jul 2025
Desert Water Agency	72,000	Jan 2028
Rancho Water District	150,000	Jan 2027
Indian Wells Valley Water District	30,000	Jan 2026
City of Corona	160,238	Jan 2026
City of Banning	31,680	Jan 2027
City of Hemet	92,368	Jan 2025
Elsinore Valley Water District	156,030	Jul 2027
Eastern Municipal Water District	651,000	Jan 2027

The figure below shows the cost of one month of water service for a single-family residential customer with a $\frac{3}{4}$ " meter using 21 HCF of service in each jurisdiction.

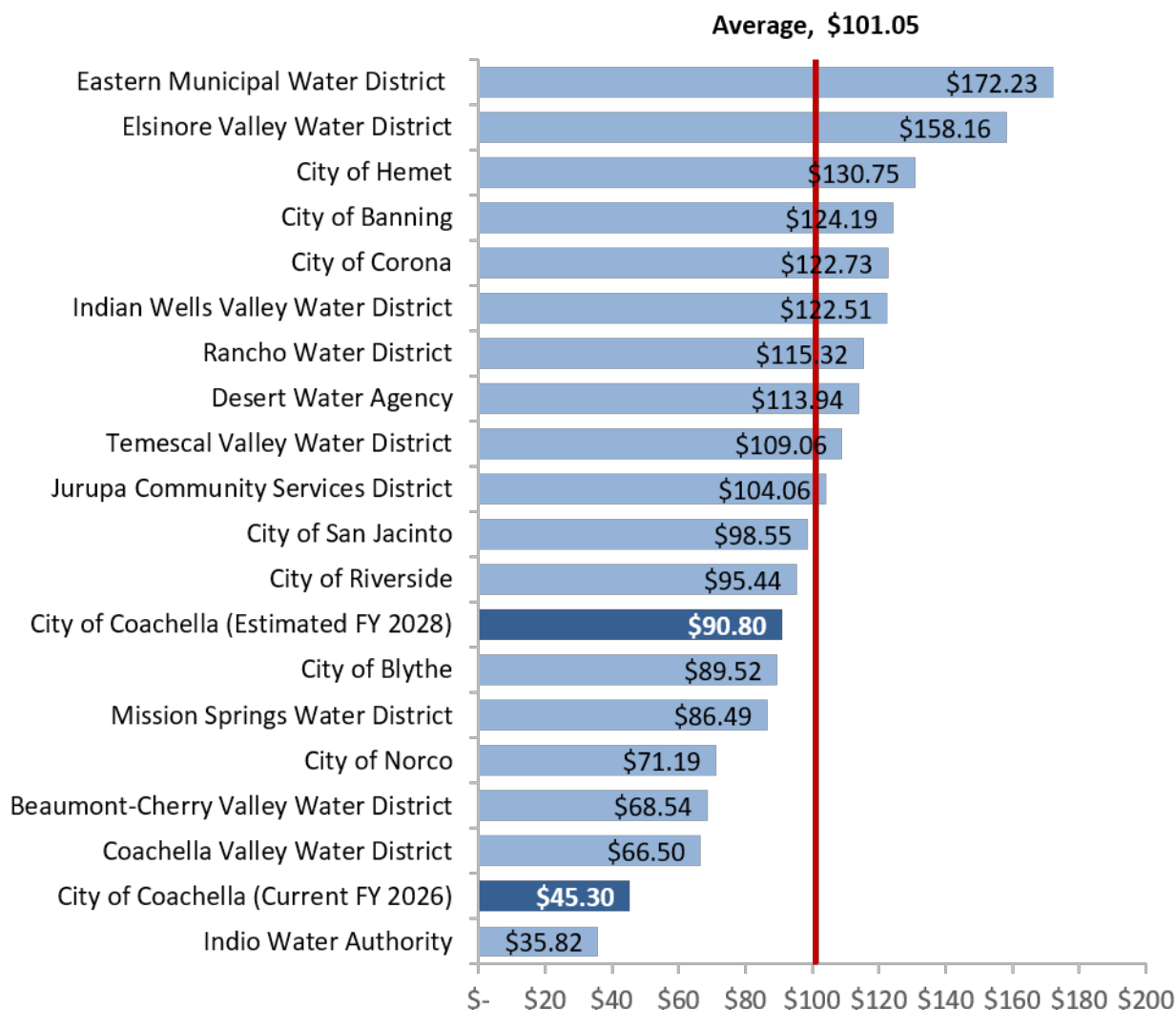


Figure 5-1: Regional Bill Comparison (FY 2028 Rates)

Each agency's bill is constructed from its published rate schedule, including fixed meter/service charges, any supplemental fixed charges (e.g., Elsinore Valley's Capital Replacement Charge, Indian Wells Valley's Arsenic Compliance surcharge), and tiered or flat volumetric charges applied at the typical residential meter size of $\frac{3}{4}$ " and usage level of 21 HCF. Bills are converted to a monthly equivalent regardless of each agency's actual billing frequency (monthly, bimonthly, etc.). Rate sources are published rate schedules, with effective dates ranging from January 2025 through January 2028, reflecting the most current available rates at the time of the study.

At a usage level of 21 HCF per month, CWA's estimated FY 2028 bill of \$90.80 remains below the \$101.55 average of all bills shown in Figure 5-1, which includes CWA's own current and estimated bills; excluding CWA, the average across the 18 comparison agencies is \$104.72. Twelve of the 18 agencies charge more than CWA's estimated FY 2028 bill for the same level of service. CWA's current FY 2026 bill of \$45.30 is the second lowest in the comparison group, behind only Indio Water Authority.

Section 6

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

CWA's existing water rates are not sufficient to recover the cost of providing water service. The Authority must fund a \$54.1 million Chromium-6 treatment mandate alongside its ongoing operating and capital needs, and at current rates the water fund produces a debt service coverage ratio of 0.07x in FY 2026 — below the 1.10x required by the Authority's bond covenants. NewGen concludes that the five-year, cost-of-service-based rate schedule presented in Section 4 is sufficient to fund the Authority's revenue requirement, restore debt service coverage, and maintain reserves at recommended levels, and recommends that CWA initiate a Proposition 218 process to adopt it.

Findings

- **Revenue requirement.** The Authority's net revenue requirement grows from \$8.0 million in FY 2026 to \$15.8 million in FY 2031. The increase is front-loaded: net revenue requirement rises 68.7% in FY 2027 as PAYGO capital spending begins and operating costs step up, then changes by 5.8%, 5.1%, 5.3%, and 0.7% in the four years that follow.
- **Chromium-6 compliance is the principal cost driver.** Treating seven groundwater wells — Wells 11, 12, 16, 17, 18, 19, and 20 — under the selected Alternative 2 Reductive Chromium Filtration approach carries an estimated \$54.1 million capital cost. Well 20 remains an expansion project and will be funded through the growth fund, but otherwise the financial plan assumes the Authority self-funds 100% of the construction cost through revenue bonds, adding approximately \$2.5 million of annual debt service beginning in FY 2030.
- **Current rates do not satisfy the debt service coverage requirement.** At FY 2026 rates, coverage is 0.07x against a 1.10x covenant requirement. Under the recommended rates, coverage returns to 1.37x in FY 2027 and remains at or above 1.25x in every year of the forecast.
- **Reserves are adequate under the recommended plan, but thin in FY 2027.** The ending water fund balance declines from \$5.1 million in FY 2026 to \$1.7 million in FY 2027 — \$548,000 below the recommended minimum — before recovering to \$6.2 million by FY 2031. The Authority meets or exceeds its recommended reserve balance in every year of the forecast after FY 2027.
- **Costs are allocated to customers in proportion to the demands they place on the system.** Applying the cost of service analysis to the Test Year 2030 net revenue requirement of \$15.7 million allocates 54.8% of costs to Base, 6.9% to Customer, 17.7% to Max Day, 11.1% to Meter, and 9.5% to Max Hour. These allocations support the continued use of meter-size-based fixed charges and a three-tier volumetric rate structure.
- **Bill impacts are concentrated in the first year of the plan.** A single-family residential customer with a ¾-inch meter using 21 HCF per month sees a monthly bill move from \$45.30 to \$85.93 effective January 1, 2027, then increase by 5.8%, 5.1%, 5.3%, and 0.7% in the following years, reaching \$101.16 in FY 2031. First-year increases for other customer categories range from 89.5% for single family residential to 128.4% for high-use commercial.

Section 6

- **CWA remains competitively priced within the region.** At 21 HCF per month, the Authority's estimated FY 2028 bill of \$85.93.70 is below the \$104.72 average of the 18 comparison agencies surveyed, and 12 of those 18 agencies charge more than CWA would for the same level of service.

Conclusions

The recommended rates are sufficient to fund the Authority's water system. Over the FY 2027–FY 2031 forecast period, the rate schedule in Table 4-1 generates revenue adequate to cover operating and maintenance costs, existing and future debt service, and the pay-as-you-go portion of the capital improvement program, while restoring debt service coverage above the 1.10x covenant requirement and holding fund balances at or above recommended reserve levels in every year after FY 2027.

The rates are cost-based and defensible under Proposition 218. Rates were derived by functionalizing the revenue requirement, allocating functionalized costs to demand components, and distributing those costs to customer classes in proportion to the demands each class places on the system. The resulting fixed charges recover customer- and meter-related costs, and the three-tier volumetric rates recover base, maximum day, and maximum hour costs from the customers who cause them. No class is charged more than the proportional cost of providing service to it, consistent with the substantive requirements of Article XIII D, Section 6.

The financing assumption underlying these rates is deliberately conservative. The financial plan assumes CWA receives no grant or subsidized financing and funds the entire \$54.1 million Chromium-6 program with revenue bonds. This assumption was necessary because the Drinking Water State Revolving Fund application process requires adopted rates before a complete financing package can be submitted. If the Authority subsequently secures a DWSRF loan, or principal forgiveness available to it as a Disadvantaged Community, the actual revenue requirement will fall below the level the adopted rates are designed to recover — providing financial flexibility rather than a shortfall.

The magnitude of the FY 2027 adjustment reflects deferred cost recovery, not an uncompetitive rate structure. Even after the first-year increase, CWA's bills remain below the regional average, and the Authority moves from among the lowest-priced agencies surveyed to a position nearer the middle of the group.

Recommendations

Based on the findings and conclusions above, NewGen recommends that the Coachella Water Authority take the following actions:

- **Adopt the five-year rate schedule presented in Table 4-1.** The schedule sets fixed monthly service charges by meter size and three-tier volumetric rates effective January 1 of each year from 2027 through 2031. Adoption of the full five-year schedule provides revenue stability and avoids the cost and delay of repeating the notice process annually.
- **Initiate the Proposition 218 notice and protest process without delay.** Written notice must be mailed to all affected property owners and customers of record at least 45 days before the public hearing. Because rates must be adopted before the Authority can submit a complete DWSRF financing package, the timing of this process directly affects the Authority's access to low-cost capital.

Findings, Conclusions, and Recommendations

- **Pursue DWSRF financing, including principal forgiveness, once rates are adopted.** As a Disadvantaged Community, CWA may qualify for principal forgiveness that would convert a portion of the loan into a grant. Any low-interest financing or principal forgiveness obtained would reduce debt service below the level assumed in this study and should be reflected in the next rate study update.
- **Formally adopt a reserve policy.** NewGen recommends an operating reserve target of 90 days of operating expenses and a capital project reserve target of 30 days of the average annual pay-as-you-go capital spending over the next ten years. Codifying these targets supports the Authority's credit position and provides an objective standard against which future rate adjustments can be measured.
- **Monitor financial performance annually and update the rate study within five years.** The Authority should compare actual revenues, expenses, and fund balances against the forecast each year, and should revisit the study sooner if the scope, schedule, or financing terms of the Chromium-6 program change materially, or if water sales diverge significantly from projected demand.
- **Pair the rate adjustment with customer outreach and assistance.** Given the magnitude of the FY 2027 increase, NewGen recommends the Authority communicate the regulatory basis for the Chromium-6 program in advance of the public hearing and evaluate a customer assistance program for low-income households, funded from a source other than water rate revenue.

Appendix A

Test Year Rate Calculations

Table A-1
Test Year Rate Calculation – \$10 million Grant Funding

	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
<u>Monthly Meter Charge</u>					
$\frac{3}{4}$	\$20.69	\$21.89	\$23.00	\$23.25	\$23.43
1	\$28.27	\$29.91	\$31.42	\$31.76	\$32.01
1 $\frac{1}{2}$	\$47.22	\$49.95	\$52.49	\$53.05	\$53.46
2	\$69.96	\$74.01	\$77.76	\$78.60	\$79.20
3	\$141.97	\$150.18	\$157.80	\$159.50	\$160.72
4	\$236.71	\$250.40	\$263.11	\$265.95	\$267.98
6	\$520.95	\$551.07	\$579.04	\$585.29	\$589.77
8	\$615.69	\$651.30	\$684.35	\$691.74	\$697.03
<u>Volumetric Rate per HCF</u>					
Tier 1: 0 – 8 HCF/month	\$2.85	\$3.01	\$3.17	\$3.20	\$3.22
Tier 2: 9 – 17 HCF/month	\$3.03	\$3.21	\$3.37	\$3.41	\$3.44
Tier 3: Over 17 HCF/month	\$3.80	\$4.02	\$4.22	\$4.27	\$4.30

Table A-2
Test Year Rate Calculation - \$25 million Grant Funding

	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
<u>Monthly Meter Charge</u>					
$\frac{3}{4}$	\$22.44	\$23.74	\$24.94	\$23.64	\$23.84
1	\$30.66	\$32.43	\$34.08	\$32.31	\$32.57
1 $\frac{1}{2}$	\$51.20	\$54.16	\$56.91	\$53.96	\$54.40
2	\$75.86	\$80.25	\$84.32	\$79.94	\$80.59
3	\$153.94	\$162.84	\$171.11	\$162.22	\$163.54
4	\$256.67	\$271.52	\$285.30	\$270.48	\$272.69
6	\$564.88	\$597.55	\$627.87	\$595.27	\$600.13
8	\$667.61	\$706.22	\$742.06	\$703.53	\$709.27
<u>Volumetric Rate per HCF</u>					
Tier 1: 0 – 8 HCF/month	\$2.78	\$2.94	\$3.08	\$2.92	\$2.95
Tier 2: 9 – 17 HCF/month	\$2.96	\$3.14	\$3.29	\$3.12	\$3.15

Appendix A

Tier 3: Over 17 HCF/month	\$3.74	\$3.95	\$4.15	\$3.94	\$3.97
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Table A-3 Test Year Rate Calculation - \$50 Million Grant Funding					
	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Monthly Meter Charge					
¾	\$22.41	\$24.51	\$24.91	\$25.79	\$25.60
1	\$30.62	\$33.49	\$34.03	\$35.24	\$34.97
1 ½	\$51.14	\$55.94	\$56.84	\$58.86	\$58.41
2	\$75.76	\$82.87	\$84.21	\$87.20	\$86.54
3	\$153.74	\$168.17	\$170.89	\$176.94	\$175.60
4	\$256.34	\$280.41	\$284.94	\$295.03	\$292.79
6	\$564.15	\$617.11	\$627.08	\$649.30	\$644.37
8	\$666.75	\$729.35	\$741.13	\$767.38	\$761.56
Volumetric Rate per HCF					
Tier 1: 0 – 8 HCF/month	\$2.52	\$2.75	\$2.80	\$2.90	\$2.88
Tier 2: 9 – 17 HCF/month	\$2.70	\$2.95	\$3.00	\$3.11	\$3.08
Tier 3: Over 17 HCF/month	\$3.44	\$3.76	\$3.82	\$3.96	\$3.93

Appendix B Functionalization Detail

Functionalization								
Account Number	Account Description	Test Year (FY 2030)	Functionalization Factors	Transmission/Distribution	Supply/Treatment	Customer	Meter	Chrome 6 Treatment
Water Authority Expenses								
Fund 178 - Water Utility Administration								
178-21-115-10-110-000	Regular employees	\$ 236,491	100% Customer	\$ -	\$ -	\$ 236,491	\$ -	\$ -
178-21-115-10-114-000	Benefit and leave cash-in	41,739	100% Customer	-	-	41,739	-	-
178-21-115-10-117-000	Stand-by time/overtime	16,473	100% Customer	-	-	16,473	-	-
178-21-115-10-120-000	Temporary/part-time employees	32,946	100% Customer	-	-	32,946	-	-
178-21-115-10-132-000	Other benefits	3,618	100% Customer	-	-	3,618	-	-
178-21-115-10-210-000	Employer's share of group insurance	49,067	100% Customer	-	-	49,067	-	-
178-21-115-10-220-000	Payroll tax deductions	3,906	100% Customer	-	-	3,906	-	-
178-21-115-10-230-000	PERS contributions	19,010	100% Customer	-	-	19,010	-	-
178-21-115-10-310-000	Official/administrative	43,883	100% Customer	-	-	43,883	-	-
178-21-115-10-332-002	City Attorney Services-special services	21,395	100% Customer	-	-	21,395	-	-
178-21-115-10-334-000	Other professional/contract services	213,951	100% Customer	-	-	213,951	-	-
178-21-115-10-334-001	Merchant Account Fees	50,466	100% Customer	-	-	50,466	-	-
178-21-115-10-530-000	Communications	16,456	100% Customer	-	-	16,456	-	-
178-21-115-10-540-000	Advertising	35,107	100% Customer	-	-	35,107	-	-
178-21-115-10-580-000	Meetings, conferences and travel	10,971	100% Customer	-	-	10,971	-	-
178-21-115-10-610-000	General supplies	13,342	100% Customer	-	-	13,342	-	-
178-21-115-10-611-000	Minor Equip, Furnit, <5,000	5,000	100% Customer	-	-	5,000	-	-
178-21-115-10-641-000	Dues and subscriptions	54,854	100% Customer	-	-	54,854	-	-
178-21-115-10-918-101	Transfer Out - General Gov't Admin Fee	3,776,700	Net Revenue Requirement	757,535	1,281,029	252,625	410,511	1,075,000
Total Administration		\$ 4,645,375		\$ 757,535	\$ 1,281,029	\$ 1,121,301	\$ 410,511	\$ 1,075,000
Operations								
178-21-120-10-110-000	Regular employees	1,075,811	Supply/Treatment	\$ -	\$ 753,068	\$ -	\$ 322,743	\$ -
178-21-120-10-114-000	Benefit and leave cash-in	96,062	Supply/Treatment	-	67,243	-	28,819	-
178-21-120-10-117-000	Stand-by time/overtime	169,624	Supply/Treatment	-	111,737	-	47,887	-
178-21-120-10-120-000	Temporary/part-time employees	186,635	Supply/Treatment	-	130,686	-	56,008	-
178-21-120-10-132-000	Other benefits	12,495	Supply/Treatment	-	8,746	-	3,748	-
178-21-120-10-210-000	Employer's share of group insurance	328,870	Supply/Treatment	-	230,209	-	98,661	-
178-21-120-10-220-000	Payroll tax deductions	17,867	Supply/Treatment	-	12,507	-	5,360	-
178-21-120-10-230-000	PERS contributions	97,932	Supply/Treatment	-	68,595	-	29,338	-
178-21-120-10-334-000	Other professional/contract services	156,185	Supply/Treatment	-	109,329	-	46,855	-
178-21-120-10-334-001	Other professional services-lab fees	48,139	Supply/Treatment	-	33,697	-	14,442	-
178-21-120-10-430-000	Repair and maintenance services	427,903	Supply/Treatment	-	299,532	-	128,371	-
178-21-120-10-442-000	Rental of equipment and vehicles	83,387	Supply/Treatment	-	58,371	-	25,016	-
178-21-120-10-530-000	Communications	2,194	Supply/Treatment	-	1,536	-	658	-
178-21-120-10-610-000	General supplies	361,345	Supply/Treatment	-	252,942	-	108,404	-
178-21-120-10-612-000	Computer software	5,559	Supply/Treatment	-	3,891	-	1,668	-
178-21-120-10-620-000	Energy & Utility Charges	767,960	Supply/Treatment	-	537,572	-	230,388	-
178-21-120-10-620-001	Ground water replenishment charges	603,397	Supply/Treatment	-	422,378	-	181,019	-
178-21-120-10-621-000	Fuel - Water Dept Only	43,883	Supply/Treatment	-	30,718	-	13,165	-
178-21-120-10-741-000	Machinery and equipment	211,248	Supply/Treatment	-	147,874	-	63,374	-
178-21-120-10-742-000	Vehicles	18,650	Supply/Treatment	-	13,055	-	5,595	-
Placeholder	Chrome 6 O&M	891,000	100% Chrome 6 Treatment	-	-	-	-	891,000
Total Operations		\$ 5,596,266		\$ -	\$ 3,293,686	\$ -	\$ 1,411,580	\$ 891,000
Transfers Out								
Placeholder	Depreciation	1,500,000	RCNLD	390,000	510,000	-	-	-
Total Transfers Out		\$ 1,500,000		\$ 390,000	\$ 510,000	\$ -	\$ -	\$ -
Personnel Increase								
	Water Operator 1	389,097	100% Transmission/Distribution	\$ 389,097	\$ -	\$ -	\$ -	\$ -
	Water Operator - Cr6	288,488	100% Chrome 6 Treatment	-	-	-	-	288,488
	SCADA/Instrumentation Technician	58,626	100% Transmission/Distribution	58,626	-	-	-	-
Total Personnel Increase		\$ 736,211		\$ 447,723	\$ -	\$ -	\$ -	\$ 288,488
Total Fund 178 - Water Utility		\$ 12,477,853		\$ 2,195,258	\$ 5,084,715	\$ 1,121,301	\$ 1,822,091	\$ 2,254,488
TOTAL COST OF SERVICE		\$ 12,477,853		\$ 2,195,258	\$ 5,084,715	\$ 1,121,301	\$ 1,822,091	\$ 2,254,488
Water Authority Revenues								
Fund 178 - Water Utility Operating Revenue								
178-21-211-40-342-000	OTHER CHARGES	72,500	Net Revenue Requirement	14,542	24,591	4,850	7,880	20,636
178-21-211-40-348-000	Turn on fees	21,500	Net Revenue Requirement	4,312	7,293	1,438	2,337	6,120
178-21-211-70-361-000	Interest income	60,000	Net Revenue Requirement	12,035	20,352	4,013	6,522	17,078
178-21-211-90-370-000	Ground Water Replenishment	570,000	Net Revenue Requirement	114,331	193,340	38,128	61,957	162,245
Total Operating Revenue		\$ 724,000		\$ 145,221	\$ 245,575	\$ 48,429	\$ 78,696	\$ 206,079
Grants								
178-21-330-41-339-000	Water - Conservation Rebate Program	-	Supply/Treatment	-	-	-	-	-
Total Grants		\$ -		\$ -	\$ -	\$ -	\$ -	\$ -
Transfers In								
Total Fund 178 - Water Utility		\$ 724,000		\$ 145,221	\$ 245,575	\$ 48,429	\$ 78,696	\$ 206,079
Capital Projects								
Debt Service								
Rate Funded Debt Service		1,768,382	RCNLD	\$ 1,167,132	\$ 601,250	\$ -	\$ -	\$ -
Chromium 6 Debt Service		2,516,997	100% Chrome 6 Treatment	\$ -	\$ -	\$ -	\$ -	\$ 2,516,997
Total Debt Service		\$ 4,285,380		\$ 1,167,132	\$ 601,250	\$ -	\$ -	\$ 2,516,997
TOTAL REVENUE REQUIREMENT (w/ CIP & DEBT)		\$ 16,039,232		\$ 3,217,170	\$ 5,440,390	\$ 1,072,872	\$ 1,743,395	\$ 4,565,406

Appendix C

Allocation Detail

Table C-1
Max Day Allocator Development

Step	MGD	Allocation Factor	Formula
Average Day demand	6.521 MGD	—	Total annual consumption ÷ 365
Max Day demand	8.631 MGD	—	Observed peak daily demand
Max Day peaking factor	—	1.3236	Max Day ÷ Average Day (8.631 ÷ 6.521)
Base share	6.521 MGD	75.55%	Average Day ÷ Max Day
Max Day (excess) share	2.110 MGD	24.45%	(Max Day – Average Day) ÷ Max Day
Total	8.631 MGD	100.00%	

Table C-2
Max Hour Allocator Development

Step	MGD	Allocation Factor	Formula
Average Day demand	6.521 MGD	—	Total annual consumption ÷ 365
Max Day demand	8.631 MGD	—	Observed peak daily demand
Max Hour demand	17.262 MGD	—	2× Max Day (model assumption)
Max Hour peaking factor	—	2.6471	Max Hour ÷ Average Day (17.262 ÷ 6.521)
Base share	6.521 MGD	37.78%	Average Day ÷ Max Hour
Max Day (excess) share	2.110 MGD	12.22%	(Max Day – Average Day) ÷ Max Hour
Max Hour (excess) share	8.631 MGD	50.00%	(Max Hour – Max Day) ÷ Max Hour
Total	17.262 MGD	100.00%	

Table C-3
Cost of Service Summary

Functional Cost Center	Net Rev. Req.	Allocation Method	Customer	Meter	Base	Max Day	Max Hour
Transmission/Distribution	\$2,973,500	Max Hour	—	—	\$1,123,291	\$363,459	\$1,486,750
Supply/Treatment	\$5,332,830	Max Day	—	—	\$4,029,136	\$1,303,694	—
Customer	\$1,077,967	Customer	\$1,077,967	—	—	—	—
Meter	\$1,751,675	Meter	—	\$1,751,675	—	—	—
Chrome 6 Treatment	\$4,587,089	Max Day	—	—	\$3,465,703	\$1,121,385	—
Total	\$15,723,061		\$1,077,967	\$1,751,675	\$8,618,130	\$2,788,538	\$1,486,750
Allocation %			6.86%	11.14%	54.81%	17.74%	9.46%

Appendix D

Volumetric Rate Calculation Detail

Table D-1
Step 1 — Total Annual System Demand

Metric	Value
Total Annual Metered Consumption (HCF)	3,182,089

Table D-2
Step 2 — Hydraulic Demand Characterization

Flow Parameter	Daily (HCF)	(MGD)
Average Day	8,718.05	6.521
Max Day	11,538.92	8.631
Max Hour (2× Max Day)	23,077.84	17.262

Table D-3
Peaking Ratios

Ratio	Calculation	Value
Max Day / Average Day	$8.631 \div 6.521$	1.3236
Max Hour / Average Day	$17.262 \div 6.521$	2.6471

These two ratios serve as the tier multipliers throughout the rate construction. They are the same in every year because demand growth is not modeled — the peaking ratios are static.

Step 3 — Peaking Component Weights

Table D-4
Max Day Peaking Component Weights

Component	Formula	Share
Base	$\text{Avg Day} \div \text{Max Day} = 6.521 \div 8.631$	75.55%
Max Day	$(\text{Max Day} - \text{Avg Day}) \div \text{Max Day} = 2.110 \div 8.631$	24.45%
Total		100.00%

Appendix D

Table D-5
Max Hour Peaking Component Weights

Component	Formula	Share
Base	$\text{Avg Day} \div \text{Max Hour} = 6.521 \div 17.262$	37.78%
Max Day	$(\text{Max Day} - \text{Avg Day}) \div \text{Max Hour} = 2.110 \div 17.262$	12.22%
Max Hour	$(\text{Max Hour} - \text{Max Day}) \div \text{Max Hour} = 8.631 \div 17.262$	50.00%
Total		100.00%

Step 4 — FY 2030 Revenue to Recover by Component

The dollars recovered through volumetric rates are derived by applying the cost of service allocation percentages developed in Section 3 — Base 54.81 percent, Max Day 17.74 percent, and Max Hour 9.46 percent — to the FY 2030 revenue requirement recovered from rates of \$15,723,061, which is the total revenue requirement of \$16,447,061 less \$724,000 of miscellaneous revenue. The functionalized dollar amounts shown in Tables 3-1 through 3-4 are used only to develop these allocation percentages and are not themselves the revenue to be recovered.

Table D-6
FY 2030 Revenue to Recover by Component

Cost Component	FY 2030 Revenue
Base	\$8,618,130
Max Day	\$2,788,538
Max Hour	\$1,486,750
Total	\$12,893,419

Table D-7
Step 5 — Tier Volume Assignments

Tier	Monthly Boundary	Annual Volume (HCF)	Share of Total
Tier 1	0 – 8 HCF/month	760,326	23.89%
Tier 2	9 – 17 HCF/month	619,684	19.47%
Tier 3	Over 17 HCF/month	1,802,079	56.63%
Total		3,182,089	100.00%

Step 6 — Solving for Component Rates by Tier

Base rate is uniform across all tiers — every HCF bears the same base cost regardless of when it is used:

$$\text{Base Rate} = \$6,574,368 \div 3,182,089 \text{ HCF} = \$2.0661/\text{HCF}$$

Max Day and Max Hour component rates vary by tier using the peaking ratios. Tier 1 carries the base multiplier (1.0×), Tier 2 carries the Max Day/Avg Day ratio (1.3236×), and Tier 3 carries the Max Hour/Avg Day ratio (2.6471×). The Tier 1 unit rate (X) for each component is solved so that revenue across all tiers equals the target:

$$\text{Revenue} = (760,326 \times X \times 1.0000) + (619,684 \times X \times 1.3236) + (1,802,079 \times X \times 2.6471)$$

Volumetric Rate Calculation Detail

Table D-8
Weighted Denominator by Tier

Tier	Volume (HCF)	Multiplier	Weighted HCF
Tier 1	760,326	1.0000	760,326
Tier 2	619,684	1.3236	820,193
Tier 3	1,802,079	2.6471	4,770,343
Total			6,350,862

Table D-9
Tier 1 Component Rate Derivation

Component	Revenue	÷ Weighted HCF	= Tier 1 Rate
Max Day	\$2,788,538	6,350,862	\$0.4391/HCF
Max Hour	\$1,486,750	6,350,862	\$0.2341/HCF

Table D-10
Step 7 — Final FY 2030 Commodity Rates

	Tier 1	Tier 2 (×1.3236)	Tier 3 (×2.6471)
Base	\$2.71	\$2.71	\$2.71
Max Day	\$0.44	\$0.58	\$1.16
Max Hour	\$0.23	\$0.31	\$0.62
Final Rate	\$3.38/HCF	\$3.60/HCF	\$4.49/HCF

Table D-11
Revenue Proof

Tier	Volume (HCF)	Rate (\$/HCF)	Revenue
Tier 1	760,326	\$3.38	\$2,571,048
Tier 2	619,684	\$3.60	\$2,230,445
Tier 3	1,802,079	\$4.49	\$8,091,926
Total	3,182,089		\$12,893,419

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THANK YOU!

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