BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

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In the Matter of the Application of CALIFORNIA WATER SERVICE COMPANY (U60W), a California corporation, for an order (1) authorizing it to increase rates for water service by $140,558,101 or 17.1% in test year 2026, (2) authorizing it to increase rates on January 1, 2027 by $74,162,564 or 7.7%, (3) authorizing it to increase rates on January 1, 2028 by $83,574,190 or 8.1% in accordance with the Rate Case Plan, and (4) adopting other related rulings and relief necessary to implement the Commissions ratemaking policies.	A.24-07-003 (Filed July 8, 2024)

CALIFORNIA WATER SERVICE COMPANY'S
NOTICE OF WRITTEN EX PARTE COMMUNICATION

Pursuant to Rule 8.4(a) of the Rules of Practice and Procedure of the California Public Utilities Commission ("Commission"), California Water Service Company ("Cal Water") provides notice of an ex parte communication. On October 7, 2024, it is Cal Water's understanding that a letter was sent via email by Professor Manny Teodoro to each of the Commissioners of the Commission regarding the revenue decoupling issue presented in pending proposed decision in California-American Water Company's general rate case proceeding A.22-07-001. A copy of the letter is attached as **Attachment A**. This letter was sent by Professor Teodoro in his own individual capacity and not as a representative of Cal Water. Nonetheless, Cal Water submits this notice of ex parte communication in this A.24-07-003 proceeding out of an abundance of

caution given that Cal Water is presenting Professor Teodoro as a witness on a similar revenue decoupling issue in this proceeding.

October 8, 2024

Respectfully submitted,

/s/ Natalie D. Wales

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Attachment A

Robert M. La Follette
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California Public Utilities Commission
505 Van Ness Avenue
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7 October 2024

Dear Commissioners,

My name is Manuel P. Teodoro, and I am a professor at the LaFollette School of Public Affairs at the University of Wisconsin-Madison. Much of my research focuses on water finance, regulation, and management. I have worked on these issues in a research and consulting capacity for more than 27 years and have published several empirical studies on water affordability and conservation in peer-reviewed outlets. I have long followed and occasionally contributed to the California Public Utilities Commission's (CPUC) work. One of my proudest professional achievements came in 2020 when the CPUC adopted *AR*$_{20}$ and *Hours at Minimum Wage*—metrics that I developed—in its pathbreaking decision on utility affordability.[1] I commend the CPUC's leadership on these matters.

In hopes that you'll again heed my counsel, I write to share my concerns about recent developments regarding rate decoupling for water utilities in California, with particular attention to low-income affordability. Specifically, I am concerned that abandoning decoupling through the Water Rate Adjustment Mechanism (WRAM) in favor of Monterey-style WRAM (W-WRAM) will have unintended deleterious effects for the state's low-income customers. The proposed decision of ALJ Rambo for California American Water's application 22-07-001 (Agenda #22877) prompts this letter, but the ideas expressed here apply to water rate decoupling in California generally.

Decoupling and conservation

Most of the CPUC's work and the public conversation about decoupling for water utilities has focused on conservation and revenue implications. The CPUC first introduced decoupling in 2008 mainly out of concern for the state's vulnerability to drought and long-term supply costs. Attention to conservation is appropriate, given the Golden State's perennial and ongoing efforts to promote resource efficiency. Progressive, inclined-block pricing promotes efficient water use, but exposes utilities to revenue volatility. Rate decoupling through WRAM involves a combination of steeply tiered rates and a retrospective balancing account that allows the utility to recover revenue lost from conservation. Decoupling thus moderates revenue volatility and reduces long-term supply costs, thanks to improved resource efficiency.

Empirical analysis demonstrates that water rate decoupling works as intended. Beyond the evidence in the CPUC's proceedings, my own peer-reviewed analysis of the response to the 2015-2017 drought found that, compared with local government water utilities, California's

[1] CPUC Decision 20-07-032. The original methodology is described in: Teodoro, Manuel P. 2018. "Measuring Household Affordability for Water and Sewer Utilities," *Journal AWWA* 110(1): 13-22.

investor-owned water utilities adopted more aggressive conservation measures, were more likely to meet state conservation standards, and conserved more water.[2] Although only a handful of the state's regulated utilities were formally decoupled during the drought emergency, virtually all investor-owned systems were effectively decoupled thanks to guidance from the CPUC. The result was that regulated utilities were nearly twice as likely as local governments to comply with state conservation orders. Comparing CPUC-regulated utilities to local government utilities over the same period of time offers potent evidence that decoupling was a key factor in driving conservation. That is a significant regulatory success story that ought to be a touchstone in efforts to make conservation a "California way of life."

Decoupling and affordability

The implications of decoupling for affordability have received comparatively little attention. The lower fixed charges and more steeply progressive volumetric charges that decoupling allows not only promote conservation, but also shift utilities' overall revenue burdens from more conservative customers (i.e., households that use less water) to higher-volume customers.

Rate structures that tie bills to the volume of water consumed give consumers greater control over their water bills and keep rates relatively inexpensive for basic indoor needs. In addition to its potential for managing demand, then, water rate decoupling can be used to manage affordability for an essential service because progressive water rate structures can significantly affect the relative burden that water utility service costs place on low-income customers.[3]

Per capital water for basic indoor use (i.e., drinking, cooking, cleaning, and sanitation) is roughly similar for people of all incomes.[4] But water for discretionary use (e.g., car washing, swimming pools, sidewalk cleaning, and lawn irrigation) correlates positively with income.[5] A recent meta-analysis of 62 empirical studies found that nearly all yielded positive income elasticity of water demand, with an estimated elasticity of 0.26; that is, a 1.00%increase in household income correlates with an average 0.26% increase in water demand.[6]

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[2] Teodoro, Manuel P., Youlang Zhang & David Switzer. 2020. "Political Decoupling: Private Implementation of Public Policy," *Policy Studies Journal* 48(2): 401-424.

[3] Patterson, Lauren, and Martin Doyle. 2023. "How Sensitive Is Household Affordability to Changes in Water Bills?" *Journal AWWA* 115(5): 14–26. doi:10.1002/awwa.2105

[4] Sebri, Maamar. 2014. "A Meta-Analysis of Residential Water Demand Studies." *Environment, Development and Sustainability* 16(3): 499–520.

[5] House-Peters, Lily A. & Heejun Chang. 2011. "Urban Water Demand Modeling: Review of Concepts, Methods, and Organizing Principles," *Water Resources Research* 47(5).

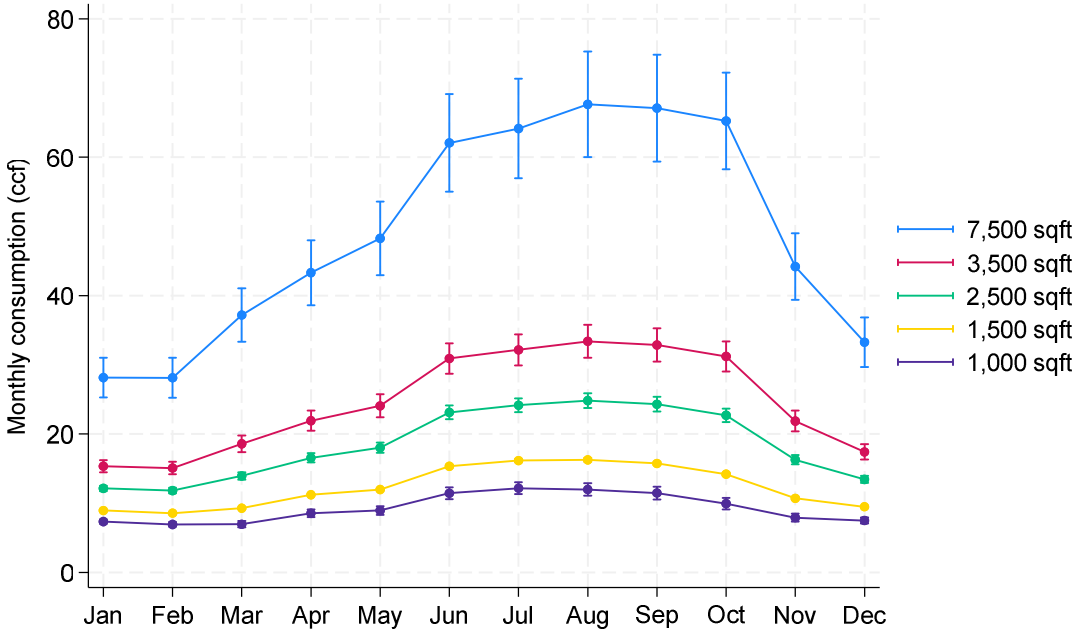
Polebitski, Austin S., and Richard N. Palmer. 2010. "Seasonal Residential Water Demand Forecasting for Census Tracts." *Journal of Water Resources Planning and Management* 136(1): 27–36.

[6] Havranek, Tomas, Zuzana Irsova, and Tomas Vlach. 2018. "Measuring the Income Elasticity of Water Demand: The Importance of Publication and Endogeneity Biases." *Land Economics* 94(2): 259–83.

My own analysis of water use in California affirms the positive correlation between discretionary water use and household affluence. Recently I analyzed water billing records for more than 300,000 residential water customers of California Water Service (Cal Water) in 2021 and 2022, which I matched to property assessor data on home characteristics and real estate value from 2019. This analysis sought to understand the relationship between proxies of income/wealth and residential water consumption. Figures 1-4 depict these results graphically.

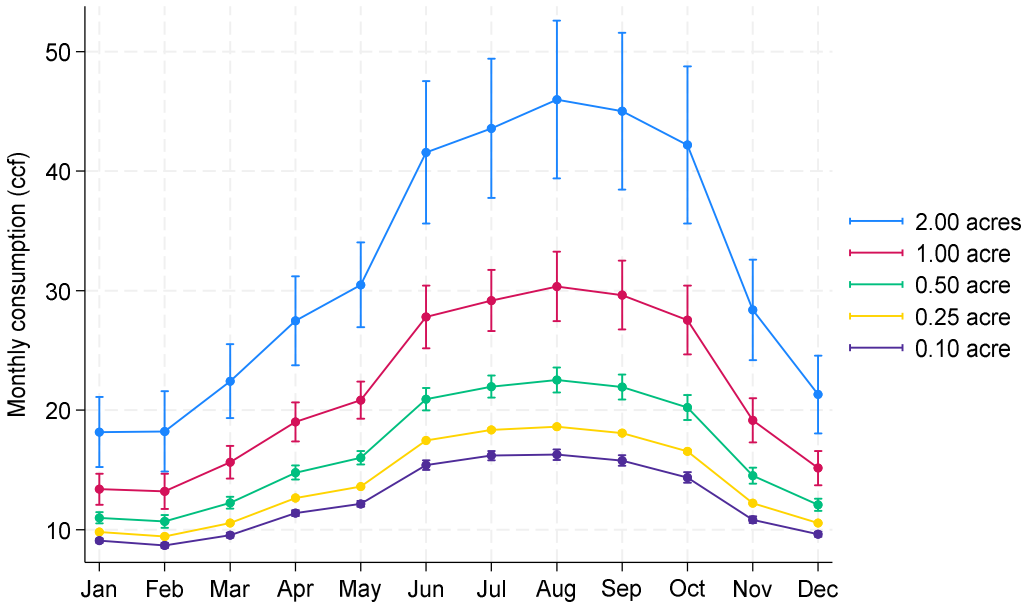
Cal Water serves a socioeconomically diverse customer base, with service areas scattered across California. My analysis showed that residential water consumption correlates positively with home size (in square feet), lot size (in acres), and assessed value (in dollars), and that customers with swimming pools use significantly more water than customers without swimming pools. Perhaps more importantly for decoupling, each of these indicators of affluence also correlates with seasonal demand patterns: customers with larger homes, larger lots, higher values, and swimming pools showed sharply higher demand in the summer months when water resources are most scarce in California. These data indicate that the lower fixed charges and more steeply inclined rate structures that decoupling allows result in lower average bills for lower-income customers in California—while simultaneously promoting conservation and resource efficiency.

Figure 1. Monthly single-family residential water consumption by indoor home size, California Water Services, 2021-2022



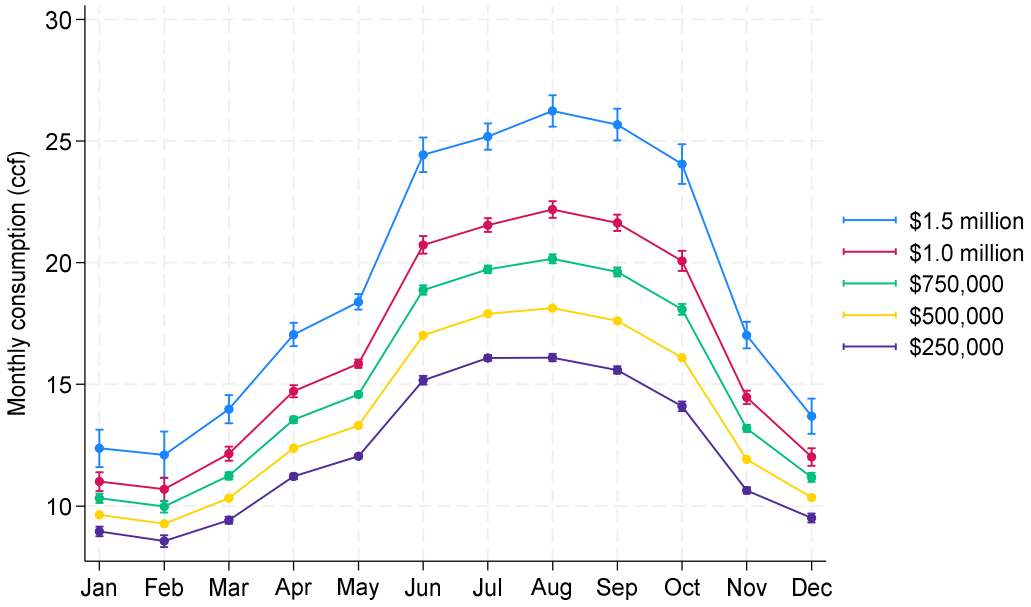
Note: Plot produced with Ordinary Least Squares regression. Thin bars represent 95% confidence intervals. Analysis excludes homes properties greater than 30,000 square feet; N= 6,522,744. Data courtesy of Cal Water.

Figure 2. Monthly single-family residential water consumption by lot size, California Water Services, 2021-2022



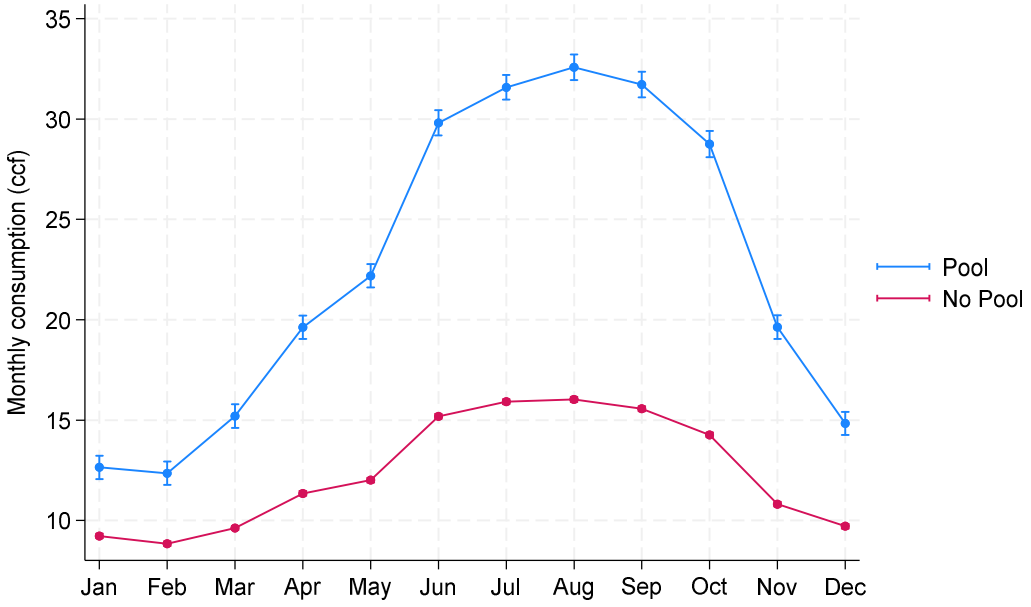
Note: Plot produced with Ordinary Least Squares regression. Thin bars represent 95% confidence intervals. Analysis excludes homes properties with lots greater than 100 acres; N= 6,522,577. Data courtesy of Cal Water.

Figure 3. Monthly single-family residential water consumption by 2019 assessed property value, Cal Water Service, 2021-2022



Note: Plot produced with Ordinary Least Squares regression. Thin bars represent 95% confidence intervals. Analysis excludes homes properties with lots greater than 100 acres, living space greater than 30,000 sqft, and assessed values of zero; N= 6,522,744. Data courtesy of Cal Water.

Figure 4. Monthly single-family residential water consumption for homes with and without swimming pools, Cal Water Service, 2021-2022



Note: Plot produced with Ordinary Least Squares regression with controls for bedrooms, bathrooms, fireplaces, and lot size. Thin bars represent 95% confidence intervals. Analysis excludes homes properties with lots greater than 100 acres and 30,000 sqft; N= 6,522,774. Data courtesy of Cal Water.

National trends in water rates illustrate how important decoupling for progressive pricing. America's water utilities face two long-term economic pressures that push them in opposite directions: rising costs and falling demand. Long-deferred infrastructure needs and increasing compliance costs for environmental regulations are driving up revenue needs. For most water utilities, a large majority of capital and operating costs are fixed. At the same time, U.S. residential water consumption has been in a long, steady decline, even as the country's population and economy grow. That's a good thing for resource sustainability, especially in California. But the combination of rising costs and declining demand creates a revenue problem for water utilities: the average price of water services must increase steeply in order to generate the revenue needed for high-quality, sustainable services.

These pressures have driven troubling trends in water rate design nationally: water rates have become steadily less progressive over the past six years.[7] Without the revenue security of decoupling—an option available to regulated water utilities only in California and New York—utilities across the country increasingly collect their revenue requirements through fixed service charges and have flattened their volumetric rates so that more revenue is collected from the first few units of consumption and less from very high-volume customers. These are rational responses to a combination of rising average costs and declining average demand; California's

[7] Teodoro, Manuel P. & Ryan Thiele. 2024. "Water and Sewer Price and Affordability Trends in the United States, 2017-2023," *Journal AWWA* 116(7): 14-24.

regulated water utilities are virtually certain to follow that regressive trend if the CPUC abandons decoupling. Over time, the fixed portion of utilities' proposed rates will grow faster than variable charges, just as they have nationwide.

The predictable long-run impact of eliminating decoupling is that the most conservative (and on average, lower income) customers will bear the brunt of future revenue needs, while the Golden State's most profligate (and on average, most affluent) water users will enjoy lower bills each summer than they would under decoupling.

WRAM, M-WRAM, and Affordability

The affordability implications of decoupling through WRAM versus M-WRAM merit brief discussion. M-WRAM provides a modest guard against revenue instability insofar as it allows adjustments for the difference between revenue collected under tiered rates, relative to revenue that would have been collected under a uniform rate structure. This mechanism reduces the disincentive for utilities to employ tiered rates, and thus facilitates progressive pricing. In this way, M-WRAM can promote conservation in ways that are similar to decoupling with WRAM: both mechanisms allow utilities to charge high marginal prices for high volume users with little revenue risk. It is hardly surprising, then, that both approaches can achieve similar levels of conservation.

M-WRAM and WRAM can carry very different implications for affordability, however. As I understand it, M-WRAM does not truly decouple revenue from water sales volume. Rate structures that employ M-WRAM do not collect significant portions of utilities' fixed costs through volumetric charges; rather, they set volume charges sufficient to collect projected variable costs. Typically, 50-70% of water utilities' costs are fixed, depending on supply sources. As fixed costs increase (e.g., due to infrastructure replacement), M-WRAM rates will cause fixed meter charges to increase. Higher fixed charges mean higher prices for low-volume customers. The fuller decoupling provided by WRAM allows utilities to collect some of their fixed costs through volumetric rates, In the long run, full decoupling can mean lower fixed charges and lower bills for the most conservative (and, on average, lower income) customers. Put simply, full decoupling with WRAM allows for more equitable, more affordable rates than are possible with M-WRAM.

Conclusion

To summarize, decoupling can facilitate water conservation, but it also allows for more progressive pricing of water in ways that protect affordability for low-income customers, who, on average, use less water than higher-income customers in California. Importantly, unlike income-qualified assistance programs, progressive pricing can improve affordability with little to no administrative costs to utilities. For low- or moderate-income customers who use relatively little water, more progressive rates provide automatic relief, without the need to learn about, apply for, qualify for, or renew participation in an assistance program.

I applaud the CPUC's ongoing emphasis on affordability in its capacity as a utility regulator. I urge you to weigh carefully the affordability implications as you decide on whether and how to employ decoupling for California's water utilities. Traditionally, resource efficiency and affordability have been regarded as conflicting goals in water utility pricing. Higher marginal prices encourage efficient resource use, but also can threaten affordability for this essential service. However, with decoupling and careful rate design, water utilities can pursue both ends simultaneously: progressive prices both encourage conservation and help maintain low prices for the basic indoor water consumption that sustains human health.

Sincerely,

Robert F. & Sylvia T. Wagner Professor
University of Wisconsin-Madison

The views expressed in this letter are solely my own and do not represent the official positions of the La Follette School or the University of Wisconsin-Madison. I have not received any compensation or financial incentives for writing this letter.