

Testimony of Robert S. Roscoe, P.E.

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**Before the Joint Hearing of the
Committee on Utilities & Commerce and the
Committee on Aging & Long-Term Care**

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Introduction

Chairs Bradford and Yamada, Vice Chairs Patterson and Wagner, and Members of the Committees, I am Rob Roscoe, the General Manager of Sacramento Suburban Water District (SSWD). SSWD serves public drinking water to 170,000 residents in north Sacramento County between the American River and the Placer County line. Our service area includes small portions of the Cities of Sacramento and Citrus Heights, and all or portions of the unincorporated communities of Arden-Arcade, North Highlands, Carmichael, Foothill Farms, Antelope, and the former McClellan Air Force Base. Our service area is extremely diverse with pockets of local affluence and areas dominated by low income households. We serve a large number of multifamily units, apartments and senior/assisted living centers.

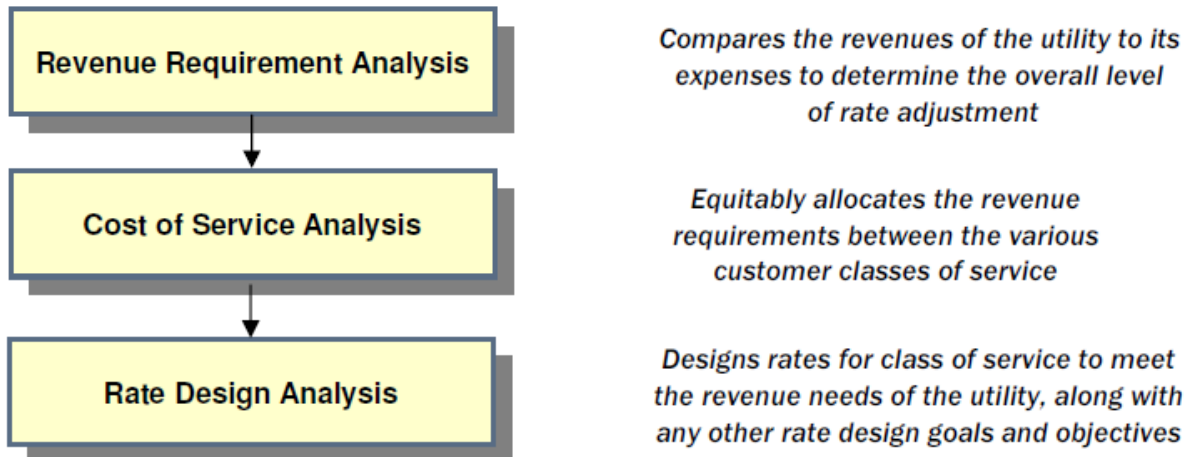
I understand this informational hearing will examine five topics:

- Water rates and their effects on aging populations
- Water rate assistance criteria; affordability vs. income
- CPUC oversight of water utilities and possible CPUC actions to maintain water affordability in California
- Low-Income Water Rate Assistance Programs
- Other mechanisms that may help to maintain water affordability in California.

My remarks will cover the first two bullets by way of an explanation of how we set water rates and a case example of our 2013 rate adjustment. I will focus less on the third bullet as SSWD is a County Water District, organized under State Water Code Division 12, Section 30000 et seq. I answer to a governing public body of five Board Members, elected by the customers we serve, and our Board has the responsibility to set rates for the water service we provide. I will close by offering some thoughts on how water utilities might address the growing perception of unaffordable water rates.

Water Rate Setting

In general, water utilities in California, whether publically or privately owned, set rates based on the cost of providing the water service. A simplified three step model for how SSWD performs an analysis of the adequacy of our rates follows:



Revenue Requirement Analysis

For SSWD, like many water utilities in California, major cost categories include costs for operation and maintenance (O&M) of the utility, debt service or cost of capital, and costs for capital improvements and replacements. Expense priorities typically follow this same order. The operation of the utility comes first to protect public health and safety. SSWD holds long term debt, and a revenue pledge to repay those bonds is the next priority. Capital improvements and replacing aging infrastructure is done to the extent revenues remain after operations and debt service are funded.

The American Society of Civil Engineers routinely publishes an Infrastructure Report Card which grades various infrastructure elements in the United States. The grade for drinking water infrastructure in California dropped from a C+ to a C in 2013 with the following explanatory quotes:

“Significant investments are still needed to address renewal and replacement, maintenance, security and reliability for the State’s water infrastructure.” “The annual investment needed for the next 10 years is estimated to be \$4.6 billion.”

The state is falling further behind as increased operating costs leave insufficient funding for necessary capital replacements, and increases in capital costs mean less replacement happens for the same dollar amount. Considering the rough population in California served by community water systems, this equates to over \$110 per year **per person** in funding shortfall for infrastructure alone.

For a local example of increased operating costs, SSWD purchases surface water from the City of Sacramento to support our conjunctive use activities which stabilize the groundwater basin from

potential overdraft. In 2009, SSWD was paying \$152.39 per acre foot of wholesale water purchased from the City. By 2013 the cost had risen to \$310.53 per acre foot, an increase of 104% in three years.

My point is that the water industry is experiencing cost increases that far exceed the normal consumer price index. The fact that water utility bills are becoming a larger and larger percentage of household income is not surprising. Unfortunately I believe this trend will continue, and this will only add to our difficulties serving reliable water supplies that are considered affordable.

Cost of Service Analysis

For SSWD the cost of service analysis is broadly divided into three steps:

- Arrangement of expenses and asset data into major operating functions (e.g. supply, treatment, storage, transmission, distribution, etc.)
- Classifying costs into categories based on what type of need is being met. Several examples are:
 - Commodity related costs which vary based on the quantity of water delivered,
 - Capacity related costs which vary with peak demand such as pipe capacities or peaking facilities,
 - Customer related costs which can vary based on the number of customers in the system such as billing costs and postage,
 - Fire protection costs.
- Allocation of assigned costs to various customer classes such as residential, non-residential, and private fire protection.

As SSWD is a public water purveyor, Proposition 218 governs the District's ability to adjust rates based on customer classes other than those directly related to cost of service. [Proposition 218, also known as the Right to Vote on Taxes Act, was adopted by California voters in November, 1996, and is codified at Articles XIIC and XIID of the California Constitution.] Proposition 218 requires public utility rates to be set such that revenues do not exceed the funds required to provide the service, and the fee or charge imposed on any ratepayer must not exceed the proportional cost of the service attributable to that ratepayer. This law specifically limits a public utility from over collecting from some customers to subsidize others. Proposition 218 does not apply to Investor-Owned Utilities regulated by the Public Utilities Commission.

The point here is that in order for a publically owned water purveyor to provide a low-income subsidy, either a different level of service must be justified, or funds from a source other than other customers must be identified. A high income family living next door to a low income family will undoubtedly receive the same level of service from the water system, making any rate differential based on income non-compliant with Proposition 218.

Rate Design

The final step in assigning rates is the rate design. Different goals can be expressed in this step, the most common of which is to place some amount of total revenue “at risk” by shading some portion of fixed costs onto the variable cost side, the “volume charge” of the total rate. This supports water conservation by sending a stronger price signal...you can have a lower bill by using less water. The risk is that customers may conserve more than assumed, and the utility under-collects needed revenues. Public utilities have fairly broad discretion in rate design provided all customers receiving the same level of service pay the same amount.

SSWD’s 2013 Rate Study

To properly set the context for our 2013 rate study, it is important to know some history. For decades, SSWD customer rates were artificially low...\$2.50 per month, flat rate, for however much water was used. This revenue level did not cover basic system operation and maintenance, and deferred all system replacements. Customers were artificially “subsidized” by passing current costs to future customers. Our rates could be lower today if past customers were required to pay the true cost of the service received. One of my goals at SSWD is to stop “kicking the can” to future generations. Future customers will have no hope of affordable water rates if we don’t. When I began as General Manager at SSWD in 2003, our rates were not sufficient to fund any magnitude of infrastructure renewal and replacement. To begin addressing this shortfall, SSWD adopted rate increases of nearly 100% between 2004 and 2009. These increases greatly reduced the gap between the true cost of service and funding levels.

SSWD’s 2013 rate study quantified the remaining shortfall in funding to sustain the District’s asset management plans. A 30.7% increase in rates would have closed the gap. This would have moved our average residential bill (based on a ¾-inch water meter using 19 units per month, where one unit is 100 cubic feet or 7,480 gallons) from \$50.95 per month to \$66.59 per month.

Other options considered were a 5-year and a 10-year phase-in of rates to gradually grow into a fully funded asset management program. Ending rates would necessarily have to be higher as capital replacements would be necessarily be deferred into future years. These options would continue, although to a lesser degree, the practice of having existing customers to underpay for services now, causing future customers to pay more.

During the many public meetings held during our 2013 rate study, our Board heard from a number of customers about the affordability of rates and the potential effect on low-income and elderly customers, particularly those living on fixed incomes. Many District customers remembered the days of \$2.50 per month flat rate bills. In the end, knowing they were trading the need for replacing old

infrastructure against customer acceptance, including threats of recall, our Board adopted an artificially lower series of 4% annual rate increases for the next four years.

This is analogous to deciding to squeeze another 90,000 miles out of an already very old car, and hoping it won't break down when you really need it. This is unsustainable in the long run.

However, a countervailing real threat to public water system sustainability is the threat of the ballot box. In my opinion, it would be worse for an elected body to set rates significantly above a customer tolerance limit, have the Board recalled, and replaced with a "reform Board" which resets water rates back to the dark ages. This would hasten the fiscal demise of the utility, and jeopardize public health and safety.

Other pressures on water rates

The water industry in California faces continuing rate pressure from ever changing regulation. While the public expects and deserves the highest quality water possible, rate impacts from these regulatory decisions commonly have disproportionate effects on small systems where a small number of customers must bear the burden of expensive new infrastructure and economies of scale do not exist.

The proposed Hexavalent Chromium rule is a good example. This new rule is California-only and does not apply to the rest of the United States. If the present draft standard is adopted, the Sacramento area water system most impacted will likely be the Rio Linda-Elverta Community Water District, which serves a population of roughly 5,000 with a groundwater-only supply. The communities of Rio Linda and Elverta are among the most economically disadvantaged in the Sacramento area. Over 60% of the total water supply would be affected, requiring new, very expensive treatment systems. The concomitant large rate increases would place significant hardships on these two low-income communities.

Low-Income Water Rate Assistance Programs

The final two topics announced for this informational hearing were Low-Income Water Rate Assistance Programs and other mechanisms that may help to maintain water affordability in California.

As discussed above, public water purveyors must comply with Proposition 218 which severely limits options for subsidized rates. That doesn't rule them out entirely, but it does mean that the funding to support such programs must come from sources other than other system customers. Other potential sources of funds for Low-Income Water Rate Assistance Programs for utilities governed by Proposition 218 could include:

- Purveyor controlled sources not collected from water rates. These can be relatively small and may total amounts that do not cover administrative expenses of managing the assistance programs. Potential sources could include: lease revenues from property or cell tower leases;

contributions from local NGO's involved with support for the underprivileged; and "donations" from customers to support low-income assistance. Conceptually, customers could enroll for voluntary contributions on the water bill such as rounding up to the nearest whole dollar amount, or allowing additional amounts to be voluntary added to bill payments. The cost of administering such programs tend to be large as custom handling of bills, typically through custom programming of billing software is required. Again, smaller systems are typically limited in their capacity in this regard.

- Programs outside purveyor control. These could include additional programs through County or State welfare programs, where the source of funds is other than water rates. Assistance for low-income households has traditionally been the role of general government. Transferring responsibility for social welfare is a policy decision which may have far reaching and incompletely understood implications.

Actions to address water rate affordability

There are a number of avenues available with potential to address water rate affordability. In no particular order of priority, they include:

1. **Additional access to grants and low interest loans.** SSWD has been very successful over the past decade in successfully pursuing a wide variety of state and federal grant opportunities. Grant funds have been received through California Propositions 26, 50 and 84, and federal funding has been received through the American Recovery and Reinvestment Act (ARRA) and through the Bureau of Reclamation's "WaterSmart" grant program. In total, we have accessed roughly \$8.4 million in funding over the past decade for needed system improvements...money that we didn't have to collect from our customers.

Many small communities have limited staff resources to properly prepare competitive grant applications. Many times, grant priorities favor regional approaches and solutions. SSWD has been successful in part by joining such regional efforts whenever possible. We recognize that sharing a winning grant with other neighboring purveyors is better than losing a grant going solo. Having a regional entity, the Regional Water Authority, to assist with these applications has been very beneficial. The State's Integrated Regional Water Management Planning efforts have also been helpful, and funding for IRWMP programs should be expanded.

Another issue for small community systems can be the ability to pass the required technical, managerial and financial reviews required to receive funding, notably from the state revolving fund program. Frequently, adding additional treatment infrastructure can mean higher levels of operator certification are needed, necessitating changes in staffing. Small communities often have difficulty meeting the matching fund requirements of many programs. And some "micro" systems have difficulty with required accounting systems and auditing requirements.

- 2. Additional customer assistance with conservation efforts.** One of the quickest ways to reduce a customer bill is for the customer to use less water. Outside funding for additional individual “waterwise housecalls” can help customers locate leaks, properly set sprinkler systems, and be informed of available rebate programs. Additional funding for rebate programs for indoor water use can be targeted at low-income communities. Often rebate programs assist with purchase of ultra-low consumption toilets or high efficiency washing machines, but do not cover installation. In California, the majority of water consumption is for outside landscaping. Funding for turf buyback programs, “smart” irrigation controllers, and conversion to low water use landscaping or to drip systems can significantly reduce water use.
- 3. Additional funding for next generation meter reading and monitoring systems.** New, network read water meter systems can be read “as required” via telemetry systems back to computers in the water district offices. They can be programmed to read on prescribed schedules to assist with leak detection on the customer side of the meter. For example, if a residential meter shows continuous consumption every hour throughout the night, additional leak investigation may be warranted. When combined with telemetry systems on all water source meters serving the distribution system, real time distribution system leak detection is possible. New technologies for sonic analysis of distribution systems can detect the sound signature of leaking pipes and can pinpoint the location of these leaks. Efficiently finding and correcting leaks saves water and reduces pressure for rate increases.
- 4. Work on the water-energy nexus.** For many water systems, energy costs can be a significant portion of the total cost of system operation. A significant amount of money can be saved by investing in high efficiency pumps and motors, investigating opportunities for in-conduit hydropower generation, conducting system energy audits, and optimizing complex system operations to minimize energy consumption during periods of peak power costs. Peak water demand periods often align with peak energy cost periods. Many small systems could use technical assistance on this front. Funding programs designed to tip a project with marginal cost/benefit ratios into the feasible realm could return long term dividends not only for customer water bills but for energy bills as well. The CPUC could easily support this effort through oversight and regulation of the state’s major electric utilities. Moving and pressurizing water supplies account for one of the single largest electrical energy demands in the state.
- 5. Provide additional funding to the State Drinking Water Program.** This is the group closest to the needs of community water systems in the State, and the group with the technical expertise to assist small, disadvantaged communities with cost effective solutions. This Department can work closely with small public water systems to identify necessary solutions, devise sustainable infrastructure plans, locate funding, and potentially assist with the technical, managerial and financial reviews required to access low interest loans and grants. Such funding could be specifically prioritized for low-income areas.

Conclusion

Thank you for inviting me to address this joint informational hearing. In summary, I do not believe there is a single silver bullet that can be employed to resolve ever-increasing water rates in California. But there are a number of small steps that, taken together, can help. I believe the entire water industry is eager to work with the legislature to on these thorny issues. I would be happy to try to answer any questions you may have.