



# NEWS RELEASE

## CALIFORNIA WATER SERVICE

Quality. Service. Value.

1905 High Street, Oroville, CA 95965

January 13, 2017

Contact: SHANNON DEAN, (408) 367-8243

*For Immediate Release*

---

---

### **New Study Details Differences between Cal Water & South Feather's Rates**

*Accounting for Key Cost Drivers Shows*

*Cal Water's Rates are Comparable to South Feather's*

---

---

OROVILLE, Calif. — California Water Service (Cal Water) has released an independent study that concludes the water utility rates paid by its customers in Oroville are comparable to those paid by customers of South Feather Water & Power Agency (South Feather), a nearby water supplier. The study explains that simplistic comparisons of water utility rates that do not account for key differences between water suppliers are inaccurate and misleading.

In the case of Cal Water and South Feather, the study identified three key differences between the two water suppliers that materially affect water rates. First, unlike South Feather, Cal Water pays taxes that provide other benefits to the residents of Oroville. Second, Cal Water's rates are reflective of regular reinvestment in facilities necessary to maintain the long-term reliability and safety of the water system in Oroville, while South Feather's do not. Finally, South Feather's rates are heavily subsidized by non-water revenue from power sales, whereas Cal Water's rates represent only the actual cost of serving its customers in Oroville. After accounting for these differences, a single-family residential customer with a 5/8-inch water meter using 10 Ccf (7,480 gallons) of water in one month would have a water bill of approximately \$54 as a Cal Water customer and \$64 as a South Feather customer.

"Cal Water commissioned this study in response to questions about rates that some of our customers in Oroville have raised," Cal Water spokesperson Shannon Dean said. "Our hope is that it will help our customers better understand the key differences between Cal Water and



# NEWS RELEASE

## CALIFORNIA WATER SERVICE

Quality. Service. Value.

South Feather, and that Cal Water’s rates are reasonable when those differences are factored in.”

Cal Water commissioned the independent study by Dr. David Sosa, who holds a Ph.D. in agricultural and resource economics from the University of California at Davis and is a Principal at Analysis Group, Inc. While Cal Water commissioned the study, it did not participate in the analysis.

“We wanted to provide our customers with a fair, unbiased, and accurate study on a subject as important as water rates,” Dean said. “We are committed to providing quality, service, and value to our customers, and this study helps explain how we are accomplishing that goal.”

### About Cal Water

Cal Water serves about 10,400 people through 3,600 service connections in Oroville and about 2 million people through 480,300 service connections in California. The company, which has provided water service in the area since 1927, was ranked “Highest in Customer Satisfaction among Water Utilities in the West” in 2016 by J.D. Power in its inaugural Water Utility Residential Customer Satisfaction Study. Additional information may be obtained online at [www.calwater.com](http://www.calwater.com).

### About Dr. David Sosa

Dr. David W. Sosa is a Principal at Analysis Group, Inc. and holds a Ph.D. in agricultural and resource economics from the University of California at Davis. Dr. Sosa specializes in the economics of network industries, law and economics, and industrial organization. Dr. Sosa has consulted on a broad range of litigation and regulatory issues, including industry restructuring, technical standardization, operational and financial benchmarking, mergers and acquisitions, market power analysis, and competitive strategy. He has served as an expert witness before several state and federal agencies. Dr. Sosa is a member of the American Economic Association



# NEWS RELEASE

## CALIFORNIA WATER SERVICE

Quality. Service. Value.

and the Federal Communications Bar Association. Before joining Analysis Group, he consulted to the California Energy Commission and Telcordia.

### About Analysis Group

Analysis Group, Inc. (AGI) provides economic, financial, and business strategy consulting to leading law firms, corporations, and government agencies. The firm has more than 600 professionals, with offices in Boston, Chicago, Dallas, Denver, Los Angeles, Menlo Park, New York, San Francisco, Washington, D.C., Montreal, and Beijing. AGI's utility and environment practice is distinguished by expertise in economics, finance, market analysis, regulatory issues, and public policy, as well as significant experience in environmental economics and infrastructure development. AGI has consulted to a wide variety of clients including water suppliers and consumers; water and electric utilities; regulatory commissions and other public agencies; tribal governments; power system operators; foundations; financial institutions; and start-up companies.

###

A Comparison of Residential Water Bills: Cal Water Oroville and South Feather Water & Power Agency is attached.

# **A Comparison of Residential Water Bills: Cal Water Oroville and South Feather Water & Power Agency**

**Analysis Group, Inc.**

David Sosa

**January 2017**

---

The views and opinions expressed in this study are those of the author and do not necessarily reflect the views and opinions of Analysis Group, Inc. or the California Water Service Company.

### **About Analysis Group, Inc.**

Analysis Group, Inc. (AGI) provides economic, financial, and business strategy consulting to leading law firms, corporations, and government agencies. The firm has more than 600 professionals, with offices in Boston, Chicago, Dallas, Denver, Los Angeles, Menlo Park, New York, San Francisco, Washington, D.C., Montreal, and Beijing.

AGI's utility and environment practice is distinguished by expertise in economics, finance, market analysis, regulatory issues, and public policy, as well as significant experience in environmental economics and infrastructure development. We have consulted to a wide variety of clients including water suppliers and consumers; water and electric utilities; regulatory commissions and other public agencies; tribal governments; power system operators; foundations; financial institutions; and start-up companies.

### **About the author**

**David W. Sosa, Ph.D., Principal at Analysis Group:** *Ph.D., agricultural and resource economics, University of California, Davis*

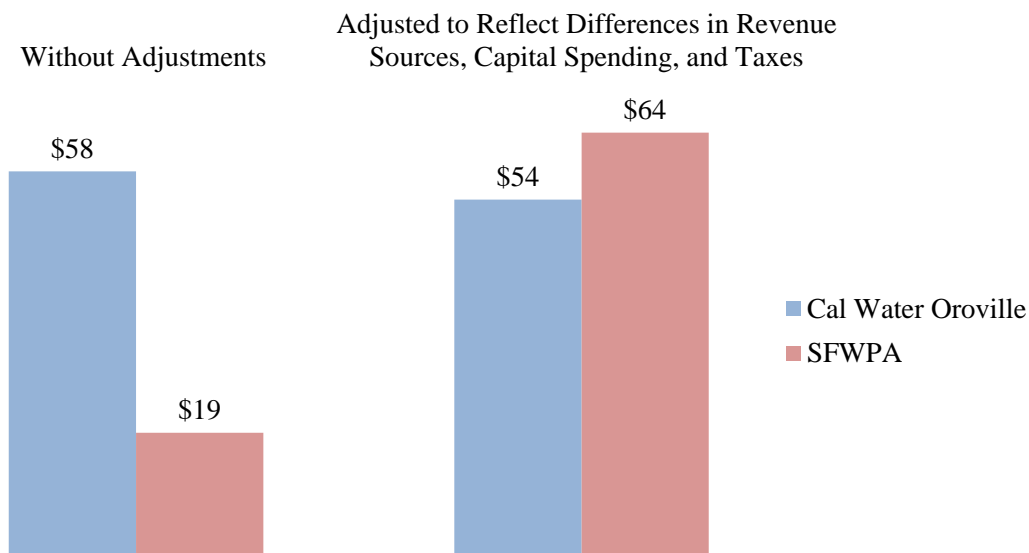
Dr. Sosa specializes in the economics of network industries, law and economics, and industrial organization. Dr. Sosa has consulted to telecommunications, water, and electric utility clients on a broad range of litigation and regulatory issues, including industry restructuring, technical standardization, operational and financial benchmarking, mergers and acquisitions, market power analysis, and competitive strategy. He has served as an expert witness before several state and federal agencies. Dr. Sosa is a member of the American Economic Association and the Federal Communications Bar Association. Before joining Analysis Group, he consulted to the California Energy Commission and Telcordia.

## I. INTRODUCTION

Proponents of government ownership of water utilities typically claim that rates charged by investor owned utilities (IOU) are unjustified and/or unfair. The arguments are frequently accompanied by simple comparisons of average water bills between the IOU system at issue and other neighboring government-owned utilities. Although water is widely considered a commodity, water utilities can differ substantially in ways that have a material effect on rates. A robust comparison of water utility rates and average bills must control for the most important differences across systems. Examples of factors that may be appropriate to control for include revenue sources, infrastructure investment, and service quality.

Earlier last year, the Oroville City Council was presented with a proposal for the city to acquire the Oroville District water system, currently owned by California Water Service Company (Cal Water). During the presentation, it was claimed that Cal Water rates in Oroville are three times higher than rates in the neighboring South Feather Power & Water Agency (SFWPA) system.<sup>1</sup> As stated above, such an overly simplistic comparison is inaccurate and misleading because it fails to account for important differences in the two systems that could affect rates. As shown in Figure 1, for a residential customer with a 5/8 inch meter consuming 10 CCF of water per month (98 gallons per day per capita), a comparison of bills without any adjustments would suggest that the average monthly water bill is higher for a Cal Water Oroville District customer (\$58) than for a SFWPA customer (\$19). However, after accounting for differences between the two systems, the Cal Water Oroville average monthly residential water bill (\$54) is comparable, and in fact lower than that of SFWPA (\$64).

**Figure 1: Comparison of Cal Water Oroville District and SFWPA Average Residential Water Bills**



<sup>1</sup> Chico Enterprise Record, Proposal floated for Oroville to take over local Cal Water, April 5, 2016, available at <http://www.chicoer.com/article/NA/20160405/NEWS/160409849>.

The next section of this report provides a brief overview of the Cal Water Oroville District and SFWPA water services. The third section provides a summary of primary drivers behind the difference between Cal Water Oroville District and SFWPA average water bills. The fourth section provides a comparison of average residential water bills that accounts for the primary differences between the two water systems.

## II. OVERVIEW CAL WATER OROVILLE DISTRICT AND SFWPA WATER SERVICES

Cal Water Oroville District relies on a combination of surface water and groundwater to supply its customers. Its primary source of supply is surface water purchased from PG&E and the State Water Project.<sup>2</sup> In 2015, the Cal Water Oroville District purchased 2,222 acre-feet (96%) of its water supply.<sup>3</sup> The remaining was supplied using groundwater. As shown in Exhibit 1, in 2015, the Cal Water Oroville District system produced a total of 2,323 acre-feet of water for 3,563 customers.

SFWPA stores runoff from the watersheds of the South Fork of the Feather River and Slate Creek in reservoirs, from where it is distributed to water treatment plants for domestic use.<sup>4</sup> In 2015, the SFWPA system domestic water sales were approximately twice Cal Water Oroville sales.<sup>5</sup> (See Exhibit 1.)

The domestic water production and customer account figures shown in Exhibit 1 include residential, commercial, industrial, governmental, and private fire use. On average, in 2015, Cal Water Oroville District residential customers consumed considerably less water than SFWPA residential customers: 77 gallons per day per capita by Cal Water Oroville customers compared to 203 gallons per day per capita by SFWPA customers.<sup>6</sup>

---

<sup>2</sup> California Water Service 2015 Urban Water Management Plan for Oroville District, June 2016, p. 47.

<sup>3</sup> California Water Service 2015 Urban Water Management Plan for Oroville District, June 2016, p. 62.

<sup>4</sup> South Feather Water and Power Agency 2010 Urban Water Management Plan, May 22, 2012, p. 25.

<sup>5</sup> The SFWPA system also provides water for approximately 500 irrigation customers. Irrigation customer accounts and water production are excluded from the comparison in Exhibit 1. Because the majority of the costs of operating a water system are fixed (*i.e.*, do not vary with sales), a system with higher per customer sales will, all else equal, still be able to generate comparable total revenues with lower volumetric rates and cover costs of operation.

<sup>6</sup> Estimated using the California Urban Water Supplier Report Dataset, available at [http://www.waterboards.ca.gov/water\\_issues/programs/conservation\\_portal/conservation\\_reporting.shtml](http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/conservation_reporting.shtml).

**Exhibit 1: 2015 Water System Production, Customer Accounts, and Residential Consumption**

	<u>Cal Water Oroville</u>	<u>SFWPA Domestic</u>
Domestic Water Production (AF)	2,323	4,600
Customer Accounts <sup>1</sup>	3,563	6,700
Residential Gallons Per Capita Per Day (R-GPCD) <sup>2</sup>	77	203
<b>Notes:</b>		
[1] Cal Water Oroville District system count excludes 470 public fire connections.		
[2] R-GPCD is equal to the twelve-month average of the monthly R-GPCD values in 2015, estimated by the California State Water Board Staff. The Water Board staff methodology is available at <a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/docs/ws_tools/guidance_estimate_res_gpcd.pdf">http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/docs/ws_tools/guidance_estimate_res_gpcd.pdf</a> .		
<b>Sources:</b>		
California Urban Water Supplier Report Dataset, available at <a href="http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/conservation_reporting.shtml">http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/conservation_reporting.shtml</a> ; California Water Service Company Annual Reports of Oroville District Water System filed with the CPUC; South Feather Water and Power Agency Audited Financial Statements.		

**III. PRIMARY DIFFERENCES BETWEEN CAL WATER AND SFWPA**

In this study, I identify three factors that must be accounted for in developing a reasonable comparison of Cal Water Oroville District and SFWPA average water bills.

**A. Revenue sources**

In order to effectively run a water system, the owner of the system must generate sufficient revenues to cover the costs of operating the system. In the case of Cal Water Oroville, the total cost of operating the water system is recovered from water customers. In the case of SFWPA, the total cost of operating the water system is recovered from water customers as well as subsidies generated via power generation and property tax revenues. SFWPA customers benefit from these subsidies through lower rates and water bills. On the contrary, Cal Water Oroville customers do not benefit from any subsidies and have to pay for the full cost of operating the Oroville District water system. Therefore, a robust comparison of rates and average bills must control for differences in subsidies.

The top panel in Exhibit 2 shows total revenue from and estimated total cost of operation for SFWPA’s domestic water division. Between 2011 and 2015, SFWPA’s domestic water cost of operation (\$30.2 million in total for five years) exceeded revenues collected from domestic customers (\$11.3 million). The remaining amount (\$18.9), which accounts for 62% of SFWPA’s domestic water cost of operation, was recovered from non-water revenue sources. These costs above revenues collected from water customers represent the total subsidy to SFWPA domestic water customers.



The bottom panel in Exhibit 2 shows major non-water revenue sources and transfers of revenues from wholesale power sales to SFWPA’s “General Fund,” which includes activities of the water division and the Sly Creek Power House owned by SFWPA. These transfers enable the subsidization of SFWPA’s domestic water customers.<sup>7</sup> These revenues and transfers, totaling \$24.3 million between 2011 and 2015, include power generation revenues from the Sly Creek Power House (owned by SFWPA), property tax revenues, and transfers of power generation revenues to SFWPA’s General Fund from facilities SFWPA jointly owns with the North Yuba Water District.

**Exhibit 2: Cost of Operation, Water Revenues, and Sources of Subsidies for SFWPA Water System (\$ millions)**

	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>Total</u>
<b>SFWPA domestic water division<sup>1</sup></b>						
Revenue from water sales	\$2.3	\$2.3	\$2.4	\$2.1	\$2.2	\$11.3
Cost of operation	\$5.2	\$6.6	\$6.1	\$6.0	\$6.4	\$30.2
Subsidy	<b>\$2.8</b>	<b>\$4.2</b>	<b>\$3.7</b>	<b>\$3.8</b>	<b>\$4.2</b>	<b>\$18.9</b>
<b>Major non-water revenue sources and transfers to SFWPA General Fund<sup>2</sup></b>						
Wholesale Power Sales						
Sly Creek	\$2.4	\$1.8	\$1.6	\$1.4	\$1.1	\$8.3
SFWPA / North Yuba Water facilities <sup>3</sup>	\$0.8	\$3.1	\$2.7	\$4.6	\$2.4	\$13.5
Property tax revenue	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$2.5
<b>Total</b>	<b>\$3.6</b>	<b>\$5.3</b>	<b>\$4.8</b>	<b>\$6.5</b>	<b>\$4.0</b>	<b>\$24.3</b>
<b>Notes:</b>						
[1] See Appendix A-3 for additional details.						
[2] General Fund includes activities of the water division and the Sly Creek Power House owned by SFWPA.						
[3] Includes transfers to SFWPA General Fund.						
<b>Sources:</b>						
South Feather Power and Water Agency Annual Budgets, Board Meeting Minutes, and Annual Financial Reports.						

An important consideration is that pricing below the cost of operation is economically inefficient, as artificially low prices encourage excess consumption of water, a vital natural resource. Moreover, if the revenues SFWPA receives from power sales and property taxes decline in future years, underpricing water could also lead to rate shocks to SFWPA customers. On the other hand, by charging rates that reflect the total cost of operation, Cal Water is able to promote conservation and economically efficient water use.

**B. Capital spending**

To maintain system integrity and water quality, utilities must invest in system maintenance and repair. The consequences of inadequate capital spending may not be immediately apparent, but “[d]elaying the

<sup>7</sup> The General Fund includes activities of the SFWPA water division and the Sly Creek Power House owned by SFWPA.

investments can result in degrading water service, increasing water service disruptions, and increasing expenditures for emergency repairs.”<sup>8</sup>

The level of capital investments in the water system will affect the rates paid by water customers. Over the last five years (2011 – 2015), Cal Water has invested \$264 more per account per year in the Oroville District water system than SFWPA has invested in its own water system. (*See* Exhibit 3.) These higher capital investments increase the cost of operating the Cal Water Oroville District system, and therefore increase the rates that Cal Water charges to its Oroville District customers. Customers benefit from higher capital investment as it allows Cal Water Oroville District to maintain its current level of service quality.

An important consideration is that rates for Cal Water Oroville are set by the California Public Utilities Commission (CPUC). The CPUC’s mandate is to ensure “that California’s investor-owned water utilities deliver clean, safe, and reliable water to their customers at reasonable rates.”<sup>9</sup> The CPUC’s practice is to carefully review operating expenses and investments to ensure that they are prudent and in the best interest of ratepayers.<sup>10,11</sup> The CPUC’s regulatory process also allows interested parties, including local governments and customers, to monitor and participate in the proceeding and to comment on utility operations and expenses. Expenses and investments that the CPUC has determined not to be prudent or in the best interest of customers will be “disallowed” and not included in rates.

The CPUC has approved the investments Cal Water made in Oroville, consistent with the best interest of ratepayers and maintaining service quality. Although a determination of the precise level of capital investment necessary to maintain service quality is beyond the scope of this project, it is reasonable to assume that Cal Water’s investment in the Oroville District, which is subject to CPUC scrutiny, is reasonable.

---

<sup>8</sup> American Water Works Association, “Buried No Longer: Confronting America’s Water Infrastructure Challenge,” 2012, p. 3.

<sup>9</sup> <http://www.cpuc.ca.gov/PUC/water/>.

<sup>10</sup> The Office of Ratepayer Advocates (ORA) is an independent division of the CPUC that reports directly to the Governor. The ORA’s statutory mission is to obtain the lowest possible rate for service consistent with reliable and safe service levels through participation as an intervenor in the rate setting process. For example, the ORA is an intervenor in all of Cal Water’s rate proceedings. The ORA has experts in all relevant disciplines, including accounting, engineering, economics, and regulatory law. Additionally, an Administrative Law Judge reviews the testimony provided by the witnesses in a rate proceeding and issues a proposed decision for the Commissioners’ consideration.

<sup>11</sup> This review also provides an important protection for ratepayers. A recent review by the California State Auditor found that one municipal utility undertook inappropriate transactions and loaned water district funds to the city at a lower rate than it was paying on its current loan obligations. This represented a net cost to ratepayers. *See* California State Auditor. “Apple Valley Area Water Rates: Differences in Costs Affect Water Utilities’ Rates, and One Utility May Have Spent Millions of Ratepayer Funds Inappropriately.” Report 2014-132, April 2015, p. 1.

### Exhibit 3: Comparison of Cal Water Oroville District and SFWPA Water System Capital Spending

	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>Total</u>
<b>Cal Water Oroville</b>						
Total CAPEX (\$ millions)	\$1.6	\$1.2	\$1.5	\$0.9	\$0.9	<b>\$6.1</b>
Number of accounts	3,567	3,540	3,537	3,556	3,563	
<b>CAPEX per account</b>	<b>\$456</b>	<b>\$339</b>	<b>\$417</b>	<b>\$250</b>	<b>\$250</b>	<b>\$342</b>
<b>SFWPA</b>						
Total CAPEX (\$ millions)	\$0.5	\$1.2	\$0.4	\$0.2	\$0.6	<b>\$2.8</b>
Number of accounts	7,200	7,200	7,200	7,200	7,200	
<b>CAPEX per account</b>	<b>\$65</b>	<b>\$161</b>	<b>\$55</b>	<b>\$31</b>	<b>\$82</b>	<b>\$79</b>
<b>Difference in CAPEX per account</b>	<b>\$391</b>	<b>\$179</b>	<b>\$362</b>	<b>\$219</b>	<b>\$168</b>	<b>\$264</b>
<b>Note:</b>						
[1] See Appendix A-4 for additional details.						

### C. Taxes

As a private (investor owned) utility, Cal Water is obligated to pay property and income taxes. Conversely, SFWPA does not have that obligation. Due to this difference in tax obligations, Cal Water Oroville District water customers incur tax payments that are avoided by SFWPA water customers. Therefore, a comparison of average water bills that does not account for the difference in tax obligations may not be valid. From 2011 to 2015, Cal Water collected a total of \$1.6 million in property and income taxes from Oroville District water customers. (See Exhibit 4.) These taxes are transfers from Oroville District water customers to beneficiaries of tax receipts who rely on these tax payments. Avoiding these taxes would result in a loss of tax revenues and would represent a lost benefit to tax payers.

### Exhibit 4: Property and Income Taxes Collected from Cal Water Oroville District Water Customers (\$ millions)

	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>Total</u>
Property taxes	\$0.1	\$0.1	\$0.1	\$0.0	\$0.1	<b>\$0.3</b>
Income taxes	\$0.2	\$0.2	\$0.2	\$0.3	\$0.3	<b>\$1.3</b>
<b>Total</b>	<b>\$0.3</b>	<b>\$0.3</b>	<b>\$0.3</b>	<b>\$0.3</b>	<b>\$0.3</b>	<b>\$1.6</b>
<b>Sources:</b>						
Cal Water Oroville District Annual Reports filed with the CPUC.						

## IV. COMPARISON OF AVERAGE BILLS

In order to make a valid comparison of Cal Water Oroville District and SFWPA average residential water bills, I estimate adjustment factors to account for the differences discussed above in Section III: revenue

sources, capital spending, and taxes. These adjustment factors are calculated as a share of average revenues using 2011 – 2015 data.<sup>12</sup>

- *Revenue sources adjustment factor:* On average, a SFWPA water customer receives a subsidy equal to 166% of his or her water bill.
- *Capital spending adjustment factor:* If SFWPA were to incur the same level of capital investment as Cal Water Oroville District, then SFWPA average water bill would increase by 78%.
- *Tax adjustment factor:* On average, property and income taxes account for 7% of a Cal Water Oroville District customer's water bill.

Using these adjustment factors, I estimate average monthly bills for Cal Water Oroville District and SFWPA water customers that account for differences in revenue sources, capital spending, and taxes. Based on my analysis, I find that Cal Water Oroville adjusted average monthly residential water bills (\$54) are comparable, and in fact lower than that of SFWPA (\$64). (*See Exhibit 5.*)

---

<sup>12</sup> See Appendix A for additional details on adjustment factor calculations.

**Exhibit 5: Comparison of Cal Water Oroville District and SFWPA Average Residential Water Bills**

Average monthly household water consumption (CCF)	10	[A]
RGPC (Residential Gallons Per Capita) <sup>1</sup>	98	[B]=[A]*748.052/30/2.55
<b>Cal Water Oroville<sup>2</sup></b>		
Service charge for 5/8 x 3/4 - inch meter	\$31	[C]
<b>Quantity rates</b>		
Tier 1 (1-8 CCF) @ \$2.6342 per CCF	\$21	[D]=8*\$2.6342
Tier 2 (9-22 CCF) @ \$2.8284 per CCF	\$6	[E]=[A]-8*\$2.8284
Tier 3 (Over 22 CCF) @ \$3.3301 per CCF	\$0	[F]=[A]-22*\$3.3301
<b>Total monthly bill</b>	<b>\$58</b>	[G]=[C]+[D]+[E]+[F]
Property and income taxes	\$4	[H]=[G]*7.35%; <i>See Appendix A-1</i>
<b>Monthly bill net of property and income taxes</b>	<b>\$54</b>	[I]=[G]-[H]
<b>SFWPA Domestic<sup>3</sup></b>		
Monthly charge for 5/8 inch meter	\$15	[J]
Quantity rate @ \$0.35 per CCF	\$4	[K]=[A]*\$0.35
<b>Total monthly bill with subsidy</b>	<b>\$19</b>	[L]=[J]+[K]
Monthly subsidy	\$31	[M]=[L]*166.47%; <i>See Appendix A-1</i>
<b>Monthly bill without subsidy</b>	<b>\$49</b>	[N]=[L]+[M]
Adjustment to reflect Oroville CAPEX	\$14	[O]=[N]*77.96%; <i>See Appendix A-1</i>
<b>Monthly bill adjusted to exclude SFWPA subsidy and reflect Oroville CAPEX</b>	<b>\$64</b>	[P]=[N]+[O]
<b>Notes:</b>		
[1] The 2011-2015 average household size in Butte County is 2.55. ( <i>See</i> <a href="http://www.census.gov/quickfacts/table/PST045215/06007">http://www.census.gov/quickfacts/table/PST045215/06007</a> .)		
[2] Cal Water Oroville 2017 residential metered service rates are settled rates from the current general rate case.		
[3] SFWPA 2017 residential metered service rates are from the SFWPA website, available at <a href="http://southfeather.com/customers/water-rate-chart/">http://southfeather.com/customers/water-rate-chart/</a> .		
[4] <i>See Appendix A-1</i> for additional details on tax, subsidy, and CAPEX adjustments.		

**V. CONCLUSION**

I have examined water rates in Cal Water’s Oroville District relative to the neighboring SFWPA. In this analysis, I have controlled for several important differences between Cal Water Oroville and SFWPA, including revenue sources, capital investment, and taxes. I conclude that controlling for these important structural differences, Cal Water Oroville’s rates are comparable to those of SFWPA. The results of this study illustrate how a simple comparison of rates across water systems, which does not account for important structural and financial differences, can be misleading.

## VI. APPENDIX A

### Appendix A-1: Adjustment Factors

	2011	2012	2013	2014	2015	Average	
<b>Cal Water Oroville<sup>1</sup></b>							
<b>Average per account</b>							
Revenue	\$1,126	\$1,139	\$1,239	\$1,272	\$1,240	<b>\$1,203</b>	[A]
Cost of operation	\$1,090	\$1,284	\$1,304	\$1,319	\$1,328	<b>\$1,265</b>	[B]
Property and income taxes	\$90	\$89	\$92	\$84	\$87	<b>\$88</b>	[C]
Cost of operation net of property and income taxes	\$1,000	\$1,196	\$1,213	\$1,235	\$1,240	<b>\$1,177</b>	[D]=[B]-[C]
<b>SFWPA Domestic (excludes irrigation)<sup>2</sup></b>							
<b>Average per account</b>							
Revenue	\$347	\$346	\$357	\$316	\$324	<b>\$338</b>	[E]
Cost of operation	\$770	\$979	\$913	\$890	\$952	<b>\$901</b>	[F]
Subsidy	\$423	\$633	\$556	\$574	\$628	<b>\$563</b>	[G]=[F]-[E]
<b>CAPEX per account<sup>3</sup></b>							
Cal Water Oroville	\$456	\$339	\$417	\$250	\$250	<b>\$342</b>	[H]
SFWPA	\$65	\$161	\$55	\$31	\$82	<b>\$79</b>	[I]
Difference	\$391	\$179	\$362	\$219	\$168	<b>\$264</b>	[J]=[H]-[I]
<b>SFWPA average cost per account adjusted to reflect Oroville CAPEX</b>	\$1,161	\$1,158	\$1,275	\$1,108	\$1,120	<b>\$1,164</b>	[K]=[F]+[J]

Average property and income taxes as a percentage of average revenue	7.35%	[L]=[C]/[A]
Average subsidy as a percentage of average revenue	166.47%	[M]=[G]/[E]
Average CAPEX adjustment as a percentage of average revenue	77.96%	[N]=[J]/[E]

#### Notes:

[1] See Appendix A-2 for additional details.

[2] See Appendix A-3 for additional details.

[3] See Appendix A-4 for additional details.

#### Sources:

South Feather Power and Water Agency Annual Budgets, Board Meeting Minutes, and Annual Financial Reports; Cal Water Oroville District Annual Financial Reports; "Adopted Plant Additions.xlsx."

## Appendix A-2: Cal Water Oroville District Revenue and Cost per Account

	2011	2012	2013	2014	2015	
<b>Accounts<sup>1</sup></b>						
Metered accounts	3,365	3,449	3,446	3,464	3,470	
Flat rate commercial accounts	111	2	1	1	0	
Flat rate private fire accounts	91	89	90	91	93	
<b>Total number of accounts(excludes public fire)</b>	<b>3,567</b>	<b>3,540</b>	<b>3,537</b>	<b>3,556</b>	<b>3,563</b>	[A]
<b>Total operating revenues<sup>2</sup></b>	<b>\$4,017,887</b>	<b>\$4,030,786</b>	<b>\$4,381,353</b>	<b>\$4,524,373</b>	<b>\$4,419,604</b>	[B]
Operating expenses <sup>3</sup>	\$2,290,635	\$2,877,891	\$2,897,435	\$2,918,298	\$2,938,385	
Depreciation <sup>4</sup>	\$535,667	\$603,639	\$652,015	\$641,292	\$575,131	
Property and income taxes <sup>5</sup>	\$320,976	\$314,272	\$324,280	\$299,324	\$311,754	[C]
Other taxes <sup>6</sup>	\$67,864	\$75,825	\$76,428	\$81,324	\$83,412	
Return on rate base <sup>7</sup>	\$671,192	\$675,442	\$663,288	\$749,865	\$822,321	
<b>Total cost of operation</b>	<b>\$3,886,334</b>	<b>\$4,547,067</b>	<b>\$4,613,446</b>	<b>\$4,690,103</b>	<b>\$4,731,003</b>	[D]
<b>Average per account</b>						
Revenue	\$1,126	\$1,139	\$1,239	\$1,272	\$1,240	[E]=[B]/[A]
Cost of operation	\$1,090	\$1,284	\$1,304	\$1,319	\$1,328	[F]=[D]/[A]
Property and income taxes	\$90	\$89	\$92	\$84	\$87	[G]=[C]/[A]
Cost of operation net of property and income taxes	\$1,000	\$1,196	\$1,213	\$1,235	\$1,240	[H]=[F]-[G]

### Notes:

- [1] Number of accounts is from schedule D-4 of the annual reports filed with the CPUC.
- [2] Operating revenues are from schedule B-1 of the annual reports filed with the CPUC.
- [3] Operating expenses are from schedule B-2 of the annual reports filed with the CPUC. Operating expenses for years 2011 and 2013 reported in the 2011 and 2013 annual reports (\$1,944,965 and \$2,168,617) differ from the amounts reported for the years 2011 and 2013 in the subsequent annual reports (2012 and 2014) filed with the CPUC. The amounts reported in the 2012 and 2014 reports are used above.
- [4] Depreciation expenses are from schedule A-3 of the annual reports filed with the CPUC. Depreciation expenses charged to account No. 503 are used above.
- [5] Property and income taxes are from schedule B-4 of the annual reports filed with the CPUC.
- [6] Other taxes are from schedule B-4 of the annual reports filed with the CPUC. These include state unemployment tax, other state and local taxes, federal unemployment tax, FICA, and general office allocation.
- [7] Authorized rates of return used in the calculations above are: 8.58% in 2011, 8.24% in 2012, and 7.94% thereafter. Total district rate base used for the above calculations is from "Adopted Plant Additions.xlsx"

### Sources:

Cal Water Oroville District Annual Reports filed with the CPUC; "Adopted Plant Additions.xlsx"

## Appendix A-3: SFWPA Water Division Revenue and Cost per Account

	Total					Associated Number of Accounts	Average per Account <sup>1</sup>					
	2011	2012	2013	2014	2015		2011	2012	2013	2014	2015	
<b>Water revenue</b>												
Domestic	\$2,323,196	\$2,319,951	\$2,394,442	\$2,115,926	\$2,172,247	6,700	\$347	\$346	\$357	\$316	\$324	[A]
Irrigation	\$211,158	\$233,909	\$243,757	\$233,370	\$242,306	500	\$422	\$468	\$488	\$467	\$485	
<b>Total water revenue</b>	<b>\$2,534,354</b>	<b>\$2,553,860</b>	<b>\$2,638,199</b>	<b>\$2,349,296</b>	<b>\$2,414,553</b>	7,200	<b>\$352</b>	<b>\$355</b>	<b>\$366</b>	<b>\$326</b>	<b>\$335</b>	
<b>Operating expenses</b>	<b>Total for Domestic and Irrigation Water</b>						<b>Average per Domestic Account<sup>1</sup></b>					
<b>Direct Water Division expenses<sup>2</sup></b>												
Water source	\$14,113	\$14,113	\$14,113	\$12,976	\$13,213	7,200	\$2	\$2	\$2	\$2	\$2	
Water treatment	\$846,119	\$891,926	\$1,109,796	\$1,186,225	\$1,139,272	6,700	\$126	\$133	\$166	\$177	\$170	
Transmission and distribution	\$1,904,755	\$1,916,829	\$1,808,436	\$1,850,481	\$1,855,039	7,200	\$265	\$266	\$251	\$257	\$258	
Customer accounts	\$448,758	\$557,256	\$653,150	\$741,838	\$703,031	7,200	\$62	\$77	\$91	\$103	\$98	
General plant and shop	\$381,488	\$586,056	\$699,332	\$645,772	\$586,606	7,200	\$53	\$81	\$97	\$90	\$81	
Sundry and expense credits	\$63,814	\$77,292	\$14,516	\$16,271	\$30,685	7,200	\$9	\$11	\$2	\$2	\$4	
<b>Allocated to Water Division<sup>3</sup></b>												
General Administration	\$554,257	\$895,715	\$1,021,982	\$940,311	\$1,034,877	7,200	\$77	\$124	\$142	\$131	\$144	
Risk Management	\$54,329	\$73,447	\$83,795	\$88,542	\$191,676	7,200	\$8	\$10	\$12	\$12	\$27	
Information Technology	\$148,346	\$186,221	\$206,446	\$207,767	\$219,840	7,200	\$21	\$26	\$29	\$29	\$31	
<b>Subtotal</b>	<b>\$4,415,978</b>	<b>\$5,198,855</b>	<b>\$5,611,566</b>	<b>\$5,690,182</b>	<b>\$5,774,240</b>		<b>\$622</b>	<b>\$731</b>	<b>\$791</b>	<b>\$803</b>	<b>\$814</b>	
CAPEX <sup>4</sup>	\$467,945	\$1,155,787	\$397,777	\$223,952	\$591,734	7,200	\$65	\$161	\$55	\$31	\$82	
Debt service <sup>5</sup>	\$554,881	\$587,161	\$448,854	\$374,069	\$377,583	6,700	\$83	\$88	\$67	\$56	\$56	
<b>Cost of operation</b>	<b>\$5,438,804</b>	<b>\$6,941,803</b>	<b>\$6,458,197</b>	<b>\$6,288,203</b>	<b>\$6,743,557</b>		<b>\$770</b>	<b>\$979</b>	<b>\$913</b>	<b>\$890</b>	<b>\$952</b>	[B]
<b>Subsidy from other sources of revenue and reserves</b>	<b>\$2,904,450</b>	<b>\$4,387,943</b>	<b>\$3,819,998</b>	<b>\$3,938,907</b>	<b>\$4,329,004</b>		<b>\$423</b>	<b>\$633</b>	<b>\$556</b>	<b>\$574</b>	<b>\$628</b>	[C]=[B]-[A]
							<b>Total for Domestic Water</b>					
Water revenue	\$2,323,196	\$2,319,951	\$2,394,442	\$2,115,926	\$2,172,247	[D]						
Cost of operation	\$5,158,401	\$6,562,448	\$6,117,951	\$5,959,876	\$6,380,591	[E]=[B]*6,700						
Subsidy	\$2,835,205	\$4,242,497	\$3,723,509	\$3,843,950	\$4,208,344	[F]=[E]-[D]						

### Notes:

- [1] Average revenue and expense per account is calculated by dividing total revenue or expense by the number of accounts associated with the given revenue or expense. Water treatment and debt service expenses are assumed to be exclusively related to SFWPA's domestic water division.
- [2] Direct water division expenses are identified using expense descriptions from SFWPA'S annual budgets.
- [3] Expenses shared between South Feather's Sly Creek Power House and water division are allocated proportionally by each division's share of General Fund revenue. See Appendix A-5 for additional details.
- [4] See Appendix A-4 for additional details.
- [5] Debt service is for CAPEX incurred on the Miners Ranch Treatment Plant. The CAPEX was financed with revenue bonds issued in 1980 and certificates of participation issued in 2003. During 2012, SFWPA defeased the 1980 Revenue Bonds and 2003 Certificates of Participation with proceeds from 2012 Revenue Refunding Bonds.

### Sources:

South Feather Power and Water Agency Annual Budgets, Board Meeting Minutes, and Annual Financial Reports.



## Appendix A-4: SFWPA and Cal Water Oroville District CAPEX

	2011	2012	2013	2014	2015	Total		Source
<b>SFWPA</b>								
Water Division Total Budget <sup>1</sup>	\$654,000	\$1,175,162	\$413,800	\$231,500	\$1,445,845	<b>\$3,920,307</b>	[A]	Reported
MRTTP Budget <sup>1</sup>	\$308,000	\$185,000	\$62,195	\$135,000	\$1,220,100	<b>\$1,910,295</b>	[B]	Reported
Water Division Other Budget	\$346,000	\$990,162	\$351,605	\$96,500	\$225,745	<b>\$2,010,012</b>	[C]=-[A]-[B]	Calculated
MRTTP Actual	\$121,945	\$165,625	\$46,172	\$127,452	\$365,989	<b>\$827,183</b>	[D]	Reported
<b>Total Estimated CAPEX</b>	<b>\$467,945</b>	<b>\$1,155,787</b>	<b>\$397,777</b>	<b>\$223,952</b>	<b>\$591,734</b>	<b>\$2,837,195</b>	[E]=-[C]+[D]	Calculated
Number of accounts	7,200	7,200	7,200	7,200	7,200			
<b>Average CAPEX per account</b>	<b>\$65</b>	<b>\$161</b>	<b>\$55</b>	<b>\$31</b>	<b>\$82</b>	<b>\$79</b>	[F]	
<b>Cal Water Oroville</b>								
Total company-funded CAPEX	\$1,628,187	\$1,200,631	\$1,474,151	\$888,418	\$889,823	\$6,081,211		
Number of accounts	3,567	3,540	3,537	3,556	3,563			
<b>CAPEX per account</b>	<b>\$456</b>	<b>\$339</b>	<b>\$417</b>	<b>\$250</b>	<b>\$250</b>	<b>\$342</b>	[G]	
Difference in CAPEX per account	<b>\$391</b>	<b>\$179</b>	<b>\$362</b>	<b>\$219</b>	<b>\$168</b>	<b>\$264</b>	[H]=-[G]-[F]	

**Note:**

[1] Miners Ranch Treatment Plant (MRTTP) and Water Division Total full-year CAPEX budget estimates are estimated as of Q4 annually by SFWPA.

**Sources:**

South Feather Power and Water Agency Annual Budgets, Board Meeting Minutes, and Annual Financial Reports; Cal Water Oroville District Annual Financial Reports; "Adopted Plant Additions.xlsx"

## Appendix A-5: SFWPA Water Division General Fund Expenses Allocated to Water Division

	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	
<b>General Fund expenses</b>						
General Administration	\$1,069,824	\$1,513,675	\$1,649,098	\$1,519,477	\$1,500,151	[A]
Risk Management	\$104,865	\$124,119	\$135,214	\$143,077	\$277,852	[B]
Information Technology	\$286,337	\$314,696	\$333,127	\$335,737	\$318,679	[C]
<b>General Fund revenues</b>						
Water revenue	\$2,534,354	\$2,553,860	\$2,638,199	\$2,349,296	\$2,414,553	[D]
Power revenue	\$2,357,446	\$1,761,927	\$1,618,871	\$1,447,004	\$1,085,566	[E]
Total	<u>\$4,891,800</u>	<u>\$4,315,787</u>	<u>\$4,257,070</u>	<u>\$3,796,300</u>	<u>\$3,500,119</u>	[F]=[D]+[E]
Allocation factor	<b>52%</b>	<b>59%</b>	<b>62%</b>	<b>62%</b>	<b>69%</b>	[G]=[D]/[F]
<b>Allocated General Fund expenses</b>						
General Administration	\$554,257	\$895,715	\$1,021,982	\$940,311	\$1,034,877	[H]=[A]*[G]
Risk Management	\$54,329	\$73,447	\$83,795	\$88,542	\$191,676	[I]=[B]*[G]
Information Technology	\$148,346	\$186,221	\$206,446	\$207,767	\$219,840	[J]=[C]*[G]

**Sources:**

South Feather Power and Water Agency Annual Budgets and Board Meeting Minutes.