



Legislation Details (With Text)

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Date	Ver.	Action By	Action	Result
9/19/2017	1	CITY COUNCIL		

**To:** Honorable Mayor and Members of City Council

**From:** Jacques R. LaRochelle, Public Works Director

**Prepared By:** Joy Eldredge, Water General Manager

**TITLE:**

Water Rate Structure and Proposed Rate Update Procedures

**RECOMMENDED ACTION:**

Authorize City Staff to Provide Written Notice by Mail of the Proposed Update to Water Rates in Compliance with all Requirements of State Law, and Schedule a Public Hearing to Consider Adoption of Updated Water Rates on November 7, 2017, at 6:30 pm.

**DISCUSSION:**

**Background**

The Water Enterprise is a non-profit utility that provides access to safe, reliable and life sustaining water every second of every day. Water rates are set to provide revenue equal to the cost of providing service. The service that rates pay for is the availability of infrastructure, water supply, health and safety, fire protection and reliability. The water enterprise performs a cost of service analysis every five years to ensure that costs are recovered and allocated equitably to each customer class based on the service provided.

Current revenue from rates is not sufficient to cover the cost of providing water service. A cost of service analysis has been performed to determine proposed rates to ensure the cost of service is recovered (Attachment 1). A fixed service charge is being proposed for all customer classes in addition to a quantity charge for water used. Tiered rates remain for single family residential customers. Prior to considering the proposed rates for adoption, a notice must be sent to all property owners pursuant to Proposition 218 (Attachment 2). As shown on page one of Attachment 2, Napa's water rates are currently, among the lowest in the Bay Area with the lowest fixed cost. Under the

proposal they will remain among the lowest.

### **Results of 2011 Rate Analysis**

Water rates were last analyzed in 2011 to insure recovery of the cost of providing water service. In 2011 there were two new regulations that had identified impacts on the water enterprise fund:

- Stage II Disinfection Byproduct Rule (DBPR-II) - single point location within the distribution system must not exceed 80 ug/L Total Trihalomethanes (TTHMs) and 60 ug/L 5 HaloAcetic Acids (HAA5,)
- Senate Bill (SB7x-7) - urban water users must show 20% reduction in consumption by 2020.

DBPR-II has required investment in capital improvements to install mixers and aerators in storage tanks, increased chemical dosages to insure enhanced coagulation, and emphasized the need for consistent flushing of water pipes on an annual basis. The water system was not flushed during the winter of 2013 due to the drought and concerns over public perception of wasting water by flushing hydrants. A year later in 2014, the South Napa Earthquake occurred in August and the water system incurred over 240 water main breaks during the six months following the event (70-110 breaks occur in a normal year.) During that period of 'all hands on deck' to keep the system intact, staff had no capacity to resume the annual flushing program and the flow of water through the system was atypical. The water system has met the stringent DBPR-II for the last eighteen months.

SB7x-7 requires customers to be more efficient with water and reduce usage by 20% by 2020, measured in gallons per capita per day (gpcpd.) In 2011 the baseline calculated gpcpd was 164.9 with a 2020 target of 131.9 and a 2015 interim target of 148.9 gpcpd. In the 2011 cost of service rate study staff logically assumed that the volume consumption would decrease incrementally over the five-year study period to meet the interim target and progress toward meeting the 20% mandate.

In Fiscal Years 2012, 2013, and 2014 demands were in line with projections and normal climactic variations with 2014 results on the low side of normal. On July 15, 2014 and 15 days after the start of Fiscal Year 2014-2015 (FY15) however, the Governor called for 20 percent conservation and the State Water Resources Control Board (SWRCB) issued an Emergency Regulation (Resolution No. 2014-0038.) The City consumed 13 percent less than 2013 and the lowest volume since 1994.

On April 1, 2015 Governor Brown issued Executive Order B29-15, directing the SWRCB to impose additional restrictions to achieve a statewide 25 percent reduction in potable urban water usage through February 16, 2016. After significant testimony from water purveyors that had reliable water supplies available at this stage of the third year of drought, the SWRCB included a slight reduction in conservation requirements based on factors including historical conservation efforts, climate considerations such as evapotranspiration, and 2014 reported data calculating residential gallons per capita per day. Although the City of Napa held an additional three years of water supply in its available water supply portfolio, the State placed the City in a tier of agencies required to reduce total potable water production by 20 percent for the period of June 2015 through May 2016 compared to the same months in 2013. In 2015 the City's customers responded to the requirement with 25 percent reduction in demands.

The 2016 gpcpd was 115, or 33% below the interim target of 148.9 gpcpd established by SBx7-7 and therefore significantly below the projections from the 2011 rate setting process.

On April 7, 2017, the Governor of California lifted the drought declaration, but the water waste prohibitions are still in place and the City must continue to report monthly usage compared to 2013. For the months of January through July 2017, despite climactic signals that would normally boost summer demands including multiple 4- and 5-day heat waves with temperatures reaching above 90 degrees Fahrenheit, the City's demands remain 21 percent below the same period in 2013. This recent data is proof that decreased demands represent an ongoing trend of customer use.

### **2017 Cost of Service Analysis**

The cost of service analysis is the process of allocating the costs to various customer classes in a fair and equitable manner. The Cost of Service Report (Attachment 1) provides detail about how the cost of providing water service is calculated for all customers. The following sections provide an explanation of the key results of the study.

### **Fixed Service Charge is Necessary**

Until 1996 the water billing structure included tiered volume rates and a fixed component (\$15 every two months). In 1997, the billing structure was changed such that all costs were recovered through the quantity charge or the volume of water consumed by customers. This cost recovery structure worked sufficiently when the volume of water used per capita did not change drastically from year to year. Even with increased conservation in the 2000s, leading to gradual reductions from one year to the next, the structure derived sufficient revenue.

In 2011 Napa was one of three systems in the state of California that did not charge a fixed service charge. At that time, the structure was changed to add tiers and a minimum charge that included 3,000 gallons of water. The new rate structure generated revenue of \$27.0M in FY 2014. However, revenue dropped to \$24.8M and \$24.3M in FY 2015 and FY 2016, respectively. Most recently in FY 2017 actual revenue collected from water sales was \$22.2M, or \$6.7M below the original FY 2017 budget estimate for revenue from water sales.

In contrast to many Bay Area water agencies, Napa did not add a drought surcharge to customer bills over the past three years. While consumption was reduced, bills remained low, and water rates have not changed since October 2015. The abrupt reduction in the volume of water consumed by customers in response to the State Drought mandates resulted in customers paying less than the actual cost of service provided to them in FY15 through FY17. Staff deferred \$1.6 million in capital projects, used one-time funding to cover operating expenses and has drawn down reserve funds due to the revenue shortfall.

The aforementioned ongoing trend in lower water use and the State policies require a change to the structure of water rates to insure cost recovery and investment in the increasingly complex water system to insure reliable water service to customers. Although many persons take water service for granted since it is always available, it requires significant effort and resources to treat and deliver water that is clean, safe, and reliable. The value of water service is not only the volume of water consumed, it is access to the system that provides clean, safe, reliable drinking water and fire protection around the clock.

If customers consume reduced amounts or even no water in a given period, the water system must remain on and ready to deliver water 24/7. To maintain the system, the following must occur:

- operate the water treatment plants 24/7,
- ensure water is available for firefighting purposes,
- perform laboratory analyses, monitor and adjust the water treatment process to respond to changing water quality,
- adjust the flow into the system to maintain storage tank levels,
- maintain the computerized network of instruments for compliance reporting,
- summarize data and report to the regulatory agencies,
- make emergency repairs to breaks in pressurized water mains that occur on average once every 3 to 5 days,
- read meters,
- send bills,
- answer customer inquiries and turn off service if a leak occurs on the customer side/turn back on after repairs are complete,
- pay debt service on bond indentures that have been used to build the system,
- ensure water supplies are available now and in the future,
- invest in capital improvements to sustain the aging infrastructure,

The list above includes highlights of the daily operations that must occur. In times of reduced use, the costs to operate the system do not directly correspond to a reduction in the requirements to maintain 24-hour service. The size of the infrastructure (treatment plant capacity, pipes, pump stations, tanks for in-system storage, reservoirs and water supply agreements) must be sufficient to meet the peak hourly demand including fire flow. The need for replacement of aging infrastructure and buried pipes is independent of this period of reduced demand, it does not subside because of reduced delivery to customers. Similarly, water supply planning is long term and must be maintained to meet the maximum volume needed in current and future years.

There are slight reductions in the volumes of chemicals used in the treatment process, but staff must monitor, sample, and adjust the process around the clock all the same. The vast majority of costs relate to the infrastructure required to provide service and the efforts to maintain the complex network of pumps, control panels, valves, process equipment and pipes that must be maintained for future use.

As a result, the Water Enterprise Fund must adapt to customer use patterns, insure cost recovery, and continue to make infrastructure investments in the system. Adding a fixed service charge for all customer classes will provide stability for the system.

### **Operations and Maintenance**

Recognizing that operating the water system around the clock is a major portion of the costs to provide water services, the Water Division has made significant efforts to streamline these costs and maintains and operates this complex system with just 62 full time equivalent employees (FTE). Our staffing levels are significantly lower than Bay Area water districts, allowing us to keep operating

costs down and invest in capital assets. According to the American Waterworks Association 2016 Benchmarking survey: Leaks, efficiency, costs, the nationwide estimate for water providers describes the best-performing utilities have the ability to produce 0.29 MGD of potable water per employee. Average performing utilities deliver 0.21 MGD. Using this statistic based on production of 24 million gallons per day, City of Napa could have 82 employees and still be a best-performing utility.

There are two major items that are critical to the operation and over which there is little ability to control costs: State Water Supplies and chemicals. State Water Supplies have risen substantially since the last cost of service study and have doubled from \$3.2 million in FY13 to \$6.7 million in FY17. Staff is aware that State Water Supplies will continue to rise due to changing policies that emphasize accommodating environmental and natural resource concerns that restrict operations and require increased monitoring and analyses. These policies increase costs and reduce reliability. In addition, the cost to repair Lake Oroville Dam (estimated at \$600 million) will be passed on to SWP entitlement holders. Napa's proportionate share would be 0.2% or \$1.2 million. Due to uncertainty of Federal funding, total project costs, and funding mechanism (bonds or straight pass-through), this liability is not included in the assumptions for cost of service. Chemical costs that are integral to the water treatment process are competitively bid locally through a pool of water treatment agencies to guarantee the best price available. However, chemical costs consistently rise at unpredictable rates because they are subject to forces from outside markets.

Even with increases in costs of water supply and chemicals, both integral to providing safe drinking water and subject to outside market forces, operating costs are projected to increase between 2% and 5% throughout the five-year study period and have remained in line with the annual Bay Area consumer price index (CPI) which was 3.5% for the period June 2016 to June 2017.

### **Aging Infrastructure Requires Investment**

The water system is a complex network including two watersheds dams and reservoirs, three treatment plants, 350 miles of pipeline, 14 storage tanks, 9 pump stations, 8,800 valves, 2,800 fire hydrants, over 25,000 meters and more. If it were to be replaced today City of Napa's water system would cost an estimated \$480,000,000. Much of our system is old. Forty years is the estimated useful life of a treatment plant. Barwick Jamieson Treatment Plant upgrades were completed in 2011 to a state of the art facility at a cost of \$43 million and will serve our customers into the future. The Hennessey Treatment Plant is of the same size and scale, but is 36 years old and unable to remove taste and odor compounds associated with our local water supply. Investments are needed to upgrade the Hennessey Treatment Plant.

The design life of buried pipes is 100 years. Of our 350 miles of pipelines: 50 miles are major transmission lines that are between 50 and 70 years old. We have 20 miles of distribution mains that are 100 years old. Napa's water system was built in phases through the years and requires consistent investment to insure reliability. Renewal and replacement of pipes is necessary to manage operating costs. In a typical year, there are between 70 and 110 emergency repairs to the pressurized pipe network. It is prudent to replace or renew pipes in a consistent and ongoing basis to avoid increased operating costs and emergency repairs.

Through the Master Planning process staff has taken great care to increase the life of existing distribution system assets and defer replacements until such time that the ongoing cost to maintain the asset exceeds the cost of replacement. For this study period the Master Plan recommends

average capital investment of \$9.3 M in the system each year to maintain a sustainable lifespan of underground pipe assets, prevent further degradation of existing pipes, and make treatment system process improvements. Recognizing that the revenue increase to accommodate this level of investment would be very difficult to implement, staff has recommended phasing in the level of investment from the existing \$3M per year increasing to \$6M in 2022, the fifth and final year of the study.

### **Proposed Structure and Rates**

The proposed rates represent a structural change to include a fixed charge for not only single-family residential customers, but all commercial, irrigation, and multi-family residential customers. The fixed service charge is based on the size of the meter and therefore the capacity of water and corresponding infrastructure that must be maintained throughout the year to accommodate the peak flow in the system. In addition, quantity charges using tiers are proposed for single family residential and a single quantity charge (no tiers) for the other customer classes. The complete rate schedule is included in the Special Notice of Public Hearing (Attachment 2.)

Single family residences are the largest customer class and make up approximately 90% of total water system customers. Staff is recommending a change in the tiered structure for single family residential rates from four tiers to three tiers.

Using 2016 billing data for single family residential customers, staff proposes the tiers be set as follows:

Tier 1: 0-14 units (1 unit = 1,000 gallons.) 70% of all customer bills in a year

Tier 2: 15 - 27 units. 90% of all customer bills were less than or equal to this amount.

Tier 3: 28 or more units. The highest 10% of all bills in a year.

The tier rate structure applies solely to single family residential customers since this customer class represents the class with the highest variability between winter and summer demands based primarily on additional discretionary use in the summer. During summer months the single family residential water demand nearly doubles when compared to winter water demand. As a result, it costs more to operate the water system because the Water Division must maintain higher priced SWP water entitlements to ensure ample reliable water supply. Water supply costs are the main driver of higher costs in Tiers 2 and 3. In addition to water supply costs, peaking costs are allocated to the higher users because they determine the capacity required and therefore size of the infrastructure that must be available to provide water at all times throughout the year. The high water demands above winter time averages require two and even all three treatment plants to run simultaneously, thereby requiring more maintenance costs, staffing and capital resources. The rates for multi-family residential, commercial and irrigation customers will transition from solely a uniform consumption rate to a fixed bi-monthly service charge plus uniform consumption rates. Tiered rates are not applied to these customer classes because, unlike single family residential customers, their consumption habits do not have strong ties to seasonal variations when the costs to provide service increases.

In addition, the pumped zone surcharge which will remain in effect as surcharge on top of the consumption rate for all customers in zones 4 and 5. Only customers in the higher elevation zones

benefit from the pump stations.

### **Typical Monthly Costs for Water Service**

It is recognized that bills are sent bi-monthly (two months of water service), but are presented here on a monthly basis for ease of comparison to most household costs. 1 unit of water is 1,000 gallons.

Single Family Residential customers that are low users (consume just 2 units per month) will see a monthly cost increase from \$11 to \$22 per month. An average user that consumes 5 units per month will see an increase from \$28 to \$35 per month. A high user of 12 units per month will see an increase from \$67 to \$72 per month.

The typical monthly cost for multi-family, commercial, and irrigation customers will increase by at least half of the cost of the fixed service fee that is applied according to the size of their meter plus a slight increase in quantity charges. A 1-inch meter using 7 units per month will increase from \$20 to \$35 per month and with a use of 30 units will increase from \$85 to \$102. A 2-inch meter using 50 units per month will increase from \$142 to \$189 per month and with a use of 150 units will increase from \$426 to \$481.

### **RateShare Program**

The RateShare Program was started in 2011 and is designed to assist lower income customers. Program eligibility is based on PG&E's Care program. If a customer is eligible for CARE, they qualify for the RateShare discount. Since 2011 there have been 800 customers in the program receiving a discount of \$4.95 per bill. The proposed program will increase to \$25 reduction per bill or (\$12.50 monthly.) To hold true with the Cost of Service basis for water rates, ratepayer funds cannot be used to subsidize rates of other customers. Therefore, the funds available for the program are those funds that are earned annually for cell tower leases on in-system storage tanks.

### **Communication Plan**

Staff has prepared Special Notice of Public Hearing (Attachment 2) based on the proposed rates. If authorized, staff will mail the Special Notice of Public Hearing, in accordance with Proposition 218 to all customers and existing property owners. After the 45-day public review period, staff will return to City Council for a public hearing on November 7, 2017 to consider adoption of the revised water rates. If approved by City Council, rates are proposed to be effective on the start of the billing cycle on December 1, 2017.

In addition to the Notice, the following resources will be made available on the City's website at [\*\*CityofNapa.org/water\*\*](http://CityofNapa.org/water)

- list of Frequently Asked Questions (FAQs) and answers
- Report of the Cost of Service Analysis in .pdf form
- Map of elevation surcharge area
- Map of parcels where fire service charges apply

Staff will meet with the Napa Valley Register Editorial Board, the Chamber of Commerce LAC and

other interested groups to explain the structural changes and rate increases.

The schedule for the proposed water rate adjustment will be:

September 22, 2017- Issue Special Notice of Public Hearing to adopt water rates and commence the 45-day public review period.

November 7, 2017 - Public Hearing to consider adoption of proposed water rates.

December 1, 2017 - Start implementation of adopted water rates.

**FINANCIAL IMPACTS:**

There is no direct impact associated with the authorization to issue a Notification to property owners. However, future associated actions will have profound impacts to the level of investment that is available for the water system.

The adopted budget shows a deficit of \$4.9M in FY18 and \$5.4M in FY19. Proposed rates are necessary to address this deficit position.

**CEQA:**

The Public Works Director has determined that the Recommended Action described in this Agenda Report is not subject to the California Environmental Quality Act pursuant to Public Resources Code Section 21080(b)(8).

**DOCUMENTS ATTACHED:**

ATCH 1 - Water Cost of Service Rate Study

ATCH 2 - Special Notice of Public Hearing, Proposed Rate Schedule and Protest Form

**NOTIFICATION:**

None.