

ATTACHMENT 3



San Francisco
Water Power Sewer
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TO: SFPUC Wholesale Customers

FROM: Steven R. Ritchie, Assistant General Manager, Water

DATE: June 9, 2016

RE: State Water Resources Control Board Self-Certification of
Supply Reliability for Three Additional Years of Drought
and
Update to Final Water Supply Availability Estimate

This memo provides the analysis to support the State Water Resources Control Board Self-Certification of Supply Reliability for Three Additional Years of Drought, and it also provides an update to the Final Water Supply Availability Estimate the SFPUC furnished to the Wholesale Customers on April 6, 2016.

On May 18, 2016, the State Water Resources Control Board adopted new standards for drought emergency water conservation regulation. The new standards require water utilities to conduct an analysis that demonstrates the utility is able to meet average annual 2013-2014 water demand under a repeat of the hydrology of water years 2013-2015. Attachment A provides the SFPUC's analysis. As shown in the attachment, the SFPUC would have sufficient supply to meet the average annual demand of 2013-2014 over the next three years with a repeat of water year 2013-2015 hydrology with no shortages necessary for any SFPUC customers (Table 1). Table 2 in the attachment provides the average annual 2013-2014 demand for each wholesale customer and thus, the water supply available to each customer for the next three years from the SFPUC regional water system under the State Board-required analysis. This analysis will be posted on the sfwater.org website by June 15, 2016.

While the SFPUC can meet the State Board requirements without requiring shortages, the SFPUC is requesting its customers maintain a 10% voluntary reduction from 2013 use. We make this request because the SFPUC Regional Water System storage will not fill at the end of the snowmelt period this year. In the event the next water year is dry, the SFPUC needs ample carryover storage to protect against additional water use reductions. Table 2 in the attachment provides 2013 water use for each Wholesale Customer for your reference.

Thank you for your ongoing efforts to conserve water. They've helped us to refill the system as we continue to recover from these years of drought.

cc.: Nicole Sandkulla, CEO/General Manager, BAWSCA

Attachment

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Findings

- Available water supply is greater than demand for three additional years of drought. In the third year, available water supply is 982 TAF and the demand only 241 TAF (Table 1).
- Conservation standard for SFPUC service area mandated by the SWRCB is 0% reduction
- Projected supply available to SFPUC and each SFPUC wholesale customer under SWRCB assumptions equals the average of CY 2013 and 2014 demands (Table 2).

Table 1. SFPUC Water Supply Reliability for Three Additional Years of Drought

Total Potable Water Demand	Unit	Retail	Wholesale	Total
Potable Water Production in Calendar Year 2013	TAF	84.2	168.2	252.4
Potable Water Production in Calendar Year 2014	TAF	76.4	153.2	229.6
Average CY2013-2014	TAF			241.0

Total Available Supply	Unit	WY2017	WY2018	WY2019
		Repeat of 2013	Repeat of 2014	Repeat of 2015
Total System Storage on Oct 1	TAF	1,246	1,175	938
<u>Annual Inflows</u>				
Tuolumne River Water Available	TAF	182	34	50
Bay Area Reservoir Inflows	TAF	33	8	27
<u>Annual Evaporation</u>				
Tuolumne System Evaporation	TAF	23	17	12
Bay Area Evaporation	TAF	13	13	13
<u>Annual System Releases</u>				
Tuolumne Basin	TAF	4	4	4
Bay Area Reservoirs	TAF	5	5	5
Available Water Supply	TAF	1,416	1,179	982
Total Potable Water Demand	TAF	241.5	241.5	241.5
Total System Storage on Sep 30	TAF	1,175	937	739

Attachment A

Self-Certification of Supply Reliability for Three Additional Years of Drought

Calculation Notes

Purpose

The State Water Resources Control Board (SWRCB) adopted on May 18, 2016 a new statewide water conservation approach. The SFPUC needs to self-certify sufficient water supply assuming an average of calendar years 2013-2014 annual demand for wholesale and retail service areas and three more dry years like the ones recorded from water year 2013 through 2015. If a shortage exists at the end of the third year, the conservation standard would equal the amount of shortage. The conservation standard would apply from June 2016 through January 2017. The purpose of this document is to explain assumptions, approach used and findings.

Assumptions

- The Hetch Hetchy Regional Water System water supply reliability is assessed following the SWRCB Resolution no. 2016-0029.
- Hydrologic conditions are a repeat of water years 2013, 2014 and 2015 for the next three years. The SWRCB text proposes to use a repeat of precipitation totals. Instead, the analysis uses a repeat of annual flows.
- Total system delivery is the average of calendar years 2013 and 2014, which is 241 thousand acre-feet, TAF (215 million gallon per day, MGD). Data sources are the SWRCB Monthly Data Reporting for retail deliveries and Finance Sales Data for wholesale deliveries.
- Initial reservoir storages on October 1, 2016 are extracted from the Reservoir Operations Projections model using a median snowmelt runoff forecast and updated early May 2016. Total system storage is forecasted at 1,246 TAF. As a reference, total system storage was 1,095 TAF on October 1, 2013.

Approach

- The approach is a simple comparison of water available to SFPUC versus demand on an annual basis for the next three years (Table 1).
- The comparison includes system losses such as 1) evaporation, 2) mandatory and supplemental releases below Hetchy and Bay Area reservoirs.
- Even if reservoir inflows were very low in WY2013-2015, there was sufficient water available to SFPUC to operate the RWS including maximizing the use of Water Bank. In addition, forecasted storage conditions for October 2016 are similar to the ones in 2013. For those two reasons, it is assumed that SFPUC could repeat its operation assuming a repeat of WY2013-2015 and system simulation is not necessary to prove supply reliability.

Table 2. Volume of water available to SFPUC and each SFPUC Wholesale Customer under SWRCB assumptions

	CY 2013 Demand (MG)	CY 2014 Demand (MG)	CY 2013- 2014 Average Demand (MG)	Projected Supply Under SWRCB Methodology (MG)		
				WY 2017	WY 2018	WY 2019
Alameda County WD	3,187.3	3,947.1	3,567.2	3,567.2	3,567.2	3,567.2
Brisbane	151.2	108.6	129.9	129.9	129.9	129.9
Burlingame	1,601.9	1,321.3	1,461.6	1,461.6	1,461.6	1,461.6
Cal Water- Bear Gulch	4,602.5	4,341.0	4,471.8	4,471.8	4,471.8	4,471.8
Cal Water-San Carlos	1,405.0	1,249.4	1,327.2	1,327.2	1,327.2	1,327.2
Cal Water-San Mateo	3,827.5	3,660.5	3,744.0	3,744.0	3,744.0	3,744.0
Cal Water- SSF	2,425.0	2,242.2	2,333.6	2,333.6	2,333.6	2,333.6
Coastside County WD	682.4	644.8	663.6	663.6	663.6	663.6
Cordilleras MWA	2.0	1.8	1.9	1.9	1.9	1.9
Daly City	1,399.8	1,147.3	1,273.6	1,273.6	1,273.6	1,273.6
East Palo Alto	587.9	605.7	596.8	596.8	596.8	596.8
Estero MID	1,517.3	1,411.8	1,464.5	1,464.5	1,464.5	1,464.5
Guadalupe Valley MID	64.4	125.1	94.7	94.7	94.7	94.7
Hayward	5,713.9	5,099.9	5,406.9	5,406.9	5,406.9	5,406.9
Hillsborough	1,265.3	1,039.5	1,152.4	1,152.4	1,152.4	1,152.4
Menlo Park	1,343.9	1,016.9	1,180.4	1,180.4	1,180.4	1,180.4
Mid-Peninsula WD	1,113.7	963.9	1,038.8	1,038.8	1,038.8	1,038.8
Millbrae	798.2	740.6	769.4	769.4	769.4	769.4
Milpitas	2,421.8	2,113.0	2,267.4	2,267.4	2,267.4	2,267.4
Mountain View	3,393.6	2,920.6	3,157.1	3,157.1	3,157.1	3,157.1
North Coast County WD	1,040.5	1,026.7	1,033.6	1,033.6	1,033.6	1,033.6
Palo Alto	4,256.2	3,756.8	4,006.5	4,006.5	4,006.5	4,006.5
Purissima Hills WD	751.5	658.2	704.9	704.9	704.9	704.9
Redwood City	3,423.3	3,060.4	3,241.8	3,241.8	3,241.8	3,241.8
San Bruno	635.6	530.5	583.0	583.0	583.0	583.0
San Jose	1,662.8	1,668.0	1,665.4	1,665.4	1,665.4	1,665.4
Santa Clara	803.8	674.2	739.0	739.0	739.0	739.0
Sunnyvale	3,550.2	2,734.0	3,142.1	3,142.1	3,142.1	3,142.1
Stanford University	821.9	789.8	805.9	805.9	805.9	805.9
Westborough WD	331.2	292.2	311.7	311.7	311.7	311.7
Wholesale Total	54,782	49,892	52,337	52,337	52,337	52,337
SFPUC	27,429	25,235	26,332	26,332	26,332	26,332
Total	82,210	75,127	78,669	78,669	78,669	78,669
Total (in thousands of acre-feet)	252.4	230.6	241.5	241.5	241.5	241.5