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ITEM 6C ATT1

City of Santa Barbara

Memorandum

TO: Kelley Dyer, P.E., Water Resources Supervisor

FROM: Sudhir Pardiwala/Hannah Phan

DATE: March 30, 2015

SUBJECT: Water Rates Development for Fiscal Year 2016

The City of Santa Barbara (City) engaged Raftelis Financial Consultants, Inc. (RFC) to develop proposed fiscal year (FY) 2016 water rates in preparation for continued drought conditions. The analysis for proposed FY 2016 water rates builds on the previous rate modeling work:

- August 2013 *Water Financial Plan & Rate Study Report* (RFC, 2013): This study involved a comprehensive review the City's water rate structure and cost of service principles.
- May 2014 *Memorandum on Water Drought Rates Development for Fiscal Year 2015* (RFC, 2014): This analysis included water rate model updates in response to drought condition for purposes of developing FY 2015 water rates.

This memo summarizes the changes made to water rate model for development of proposed FY 2016 water rates. More details description of the water rate model components and calculations is included in the August 2013 Rate Study Report.

Public Process

Throughout the rate development process, several public meetings were held with Water Commission and City Council to receive policy input on the updated financial plan and rate design. Water Commission meetings were held on August 11, 2014, October 13, 214, and January 12, 2015; and City Council meetings were held on September 23, 2014, December 9, 2014, and January 13, 2015. A public hearing will also be held prior to rate adoption, consistent with Prop 218 requirements.

Changes to the Water Model Inputs from Prior Year

The changes to the water model include: 1) extending the duration of the drought period, 2) the cost of desalination, 3) updates to other drought-related expenses, and 4) updates to the capital improvement program budget.

Duration of the Drought Period

For planning purposes, the financial plan assumes the drought period will extend through FY 2017. Therefore, metered water sales are assumed to continue with a 20% demand reduction through FY 2017, and then slowly recovering to average levels by FY 2020. The model also assumes supplemental drought supplies will be needed through FY 2017.

Cost of Desalination

In response to continued drought conditions, the next phase of drought planning considers reactivation of the City's Charles Meyer Desalination (Desal) facility. Therefore, the updated water rates incorporate the costs of reactivating and operating the City's Desal Facility.

At the time of rate development, actual project costs for the Desalination Plant and final loan terms were not known. These costs would be determined at the time a contract is awarded to design, build, and operate the Desal Plant. Therefore, for rate modeling purposes, assumptions were made regarding project capital costs and loan terms. The rate model assumes a $40 million capital cost financed at 6% interest over 10 years, which results in annual debt service cost of approximately $5.3 million per year. Water rates should be re-assessed to reflect actual debt service costs once more information becomes available.

The estimated annual operating cost is approximately $5.2 million for full production of 3,125 acre feet per year (AFY) and approximately $2.5 million for standby mode (producing about 500 AFY). If constructed, it is unknown how long the plant would operate at full production at this time. For rate modeling purposes, it was assumed that the plant would be operating at full production in FY 2017 and part of FY 2018, and in standby mode thereafter. Based on these assumptions, the average annual operating cost of Desal is approximately $3.4 million per year over the next three years.

Other Drought Related Expenses

In response to the drought, there have been additional capital costs for groundwater well projects and the Cachuma Emergency Pump Project. In addition, operating expenses increased for supplemental water purchases and increased water conservation rebates. **Table 1** shows the additional operating and capital expenses related to the drought. The total drought-related expenses for three years are $26.85 million (excluding the Desal Plant costs).

Table 1
Additional Drought-Related Expenses

	FY 2015	FY 2016	FY 2017
Capital Costs	$4,250,000	$3,950,000	$1,850,000
O&M Costs			
CCWA - Water Purchase (SWP)	$3,000,000	$3,000,000	
CCWA - Conveyance (SWP)	$1,000,000	$1,100,000	
Conservation Incentives	$150,000	$150,000	
Total O&M Costs	$4,150,000	$4,250,000	$0

Capital Improvement Plan

The capital improvement plan (CIP) was also updated in the rate model as shown in **Table 2**. Per Council direction, budget for the main replacement program is based on the current Council policy to replace an average of one percent of the water system annually, which equates to approximately $4.7 million per year.

Table 2
Capital Improvement Plan

Project Number	Program	*Proposed* FY 2015	*Proposed* FY 2016	*Proposed* FY 2017	*Proposed* FY 2018	*Proposed* FY 2019
8201	Water Main Replacement Program	$2,000,000	$4,700,000	$4,700,000	$4,700,000	$4,700,000
	Water Meter Replacement Program	$0	$500,000	$500,000	$500,000	$500,000
8359	Groundwater Supply Program Total	$0	$0	$0	$0	$0
8432	Distribution Pump Station Program	$250,000	$300,000	$500,000	$2,425,000	$2,295,500
8240	Recycled Water/City Facilities	$315,000	$0	$130,000	$707,000	$0
8427	Distribution Reservoir Program Total	$750,000	$109,000	$790,000	$235,000	$300,000
8239	Cater Treatment Plant Equipment Maintenance	$100,000	$666,000	$1,045,000	$533,000	$123,500
8292	Recycled Water Facilities Rehabilitation	$0	$0	$0	$0	$0
48244	Vic Trace Roof Replacement	$0	$0	$0	$2,100,000	$0
	Drought Related Projects	$4,250,000	$3,950,000	$1,850,000	$0	$0
Grand Total		**$7,665,000**	**$10,225,000**	**$9,515,000**	**$11,200,000**	**$7,919,000**

Reserves Balance and Financial Plan

Once the inputs to the model were updated, the reserve balances and financial plan were modeled. **Figure 1** shows the projected 5-year reserve balance, with planned reserves remaining at policy levels for emergencies, unexpected cost increases, or working capital requirements. **Figure 2** shows the financial plan comparing projected debt service, operating, and capital costs with projected revenue requirements.

The revenue projections in **Figure 2** assume proposed FY 2016 water rates become effective April 1, 2015. The increased revenue from proposed rates for the 3-month period from April 1, 2015 – June 30, 2015 in FY 2015 is approximately $3 million. For rate modeling purposes, this additional revenue is included in the projected FY 2016 revenue of $54.3 million in **Figure 2**.

If FY 2016 water rates become effective July 1, 2015, the projected revenue for FY 2016 would be $3 million lower at approximately $51.3 million; of which, approximately $47 million would be recovered through revenue from water rates, and the remainder would be recovered through other non-operating revenues (e.g. interest income).

Figure 1

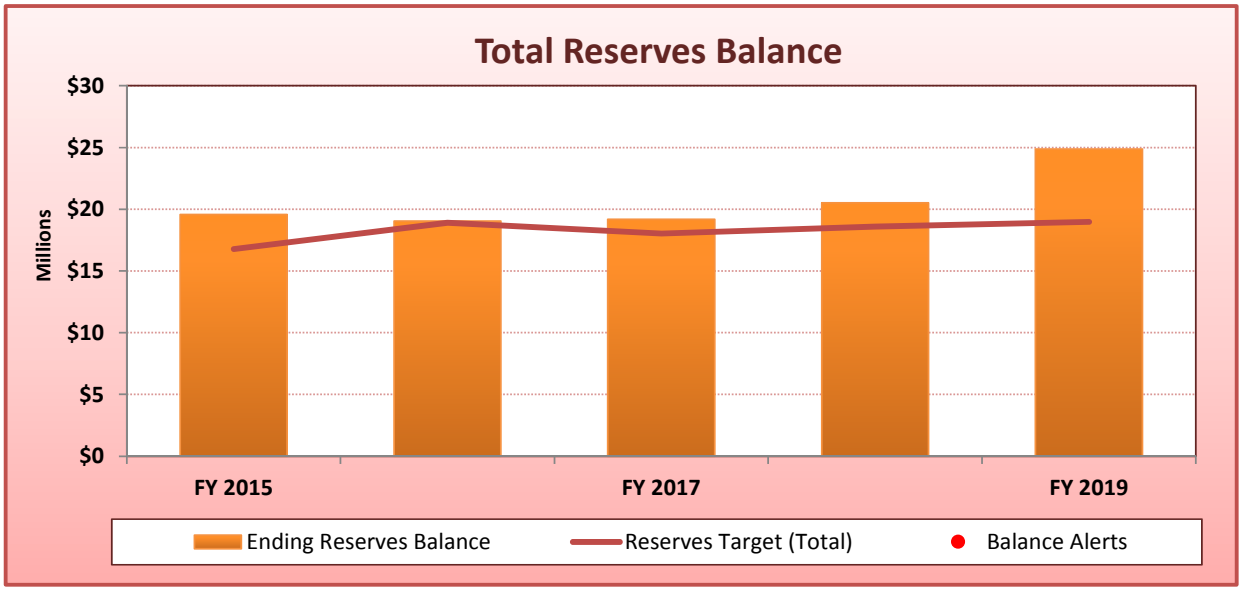
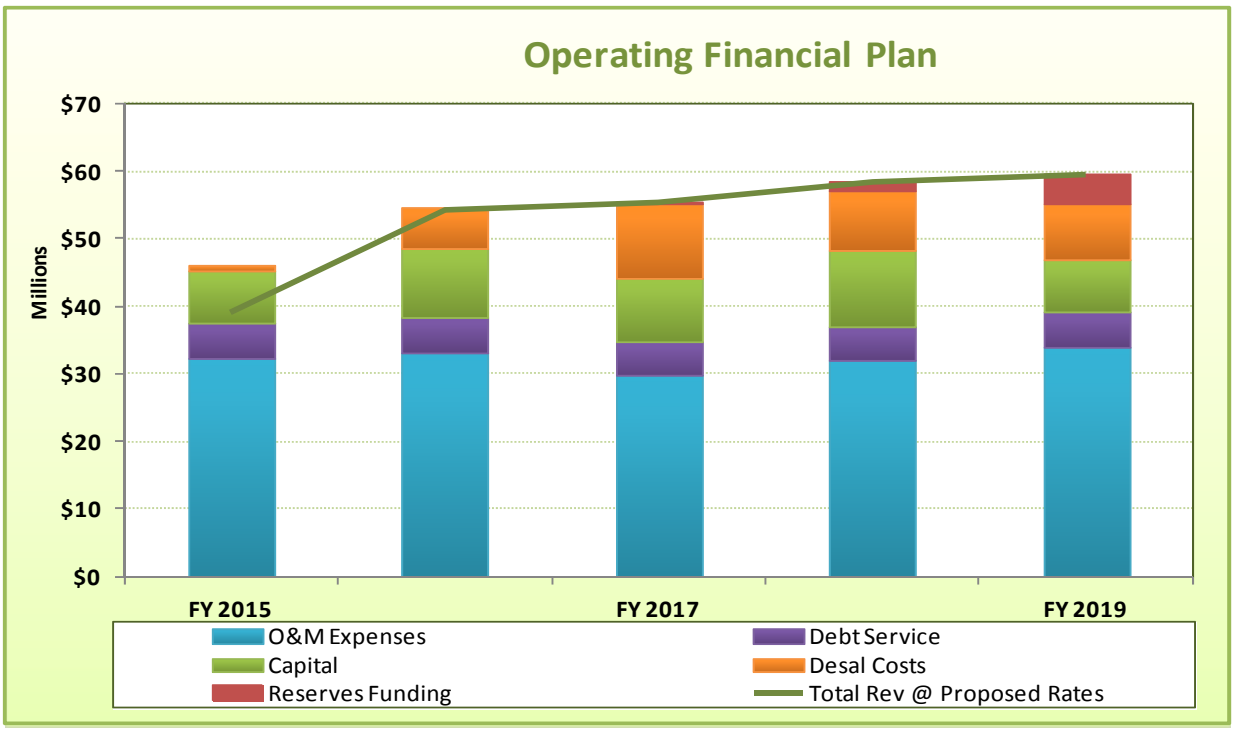


Figure 2



Cost of Service Analysis

Based on reserve levels and revenue requirements, RFC conducted a cost of service analysis consistent with industry standards and with the methodology developed in the previous rate study (RFC, 2013). The revenue requirements for each customer class, residential, commercial, agriculture, irrigation, and recycled water, were determined as a result of the cost of service analysis. **Table 3** shows the cost of service revenue requirements by customer class for FY 2016.

Table 3
Revenue Requirements by Class – FY 2016

Customer Class	COS
Inside City Limits	
Single Family Residential (SFR)	$20,320,522
Multi-Family Residential (MFR)	$10,730,536
Commercial/Industrial	$8,974,438
Irrigation - Residential	$1,008,856
Irrigation - Commercial	$281,066
Irrigation - Recreation/Parks/Schools	$586,640
Irrigation - Agriculture	$470,629
Recycled Water	$1,168,856
Fire Line Service	$131,399
Subtotal Inside City	**$43,672,943**
Outside City Limits	
Single Family Residential (SFR)	$2,833,823
Multi-Family Residential (MFR)	$201,633
Commercial/Industrial	$51,508
Irrigation - Residential	$61,217
Irrigation - Commercial	$7,310
Irrigation - Recreation/Parks/Schools	$13,564
Irrigation - Agriculture	$140,508
Recycled Water	$7,728
Fire Line Service	$16,763
Subtotal Outside City	**$3,334,054**
TOTAL	**$47,006,997**

Rate Design

Once the revenue requirements by class are determined, the next step is rate design, which is the process of determining the rates for each tier within each customer class, so that the total revenue collected from that class does not exceed the cost of providing service to that class. To meet the City's objectives to reduce water usage and signal conservation, policy discussions with City staff and Commission resulted in the following:

- For volumetric charges:
  - The tier allotments for all customer classes will remain unchanged.
  - Since first tier usage for residential customers is for basic health and sanitation needs, costs related to the drought and reduced sales would be borne only by Tier 2 and Tier 3 usage.

- The operating component of the Desal costs would be recovered primarily by Tier 2 and Tier 3 usage. A small portion of the costs is allocated to commercial Tier 1 customers since they are projected to cut back less during the drought due to uninterruptible water needs and less potential to curb discretionary use compared with other customer classes.

- For fixed charges:
  - The capital component of the Desal costs would be included in the fixed monthly meter service charge because it is a fixed cost that benefits all customers and should be recovered accordingly. However, revenue collected from the fixed charges should not exceed 30 percent to incentivize conservation and to adhere to the California Urban Water Conservation Council (CUWCC) guideline.

The cost of service methodology used in the previous study (RFC, 2013) is to allocate the different sources of supply to each tier in order to arrive at a rate differential that is based on the costs of different water sources. However, water supply sources and the associated costs vary dramatically during the drought, even more so as the drought continues. This would result in huge fluctuations in the resultant rates under the original methodology. Thus, to achieve rate stability and focus the message on water conservation, the rate design was simplified to meet the City's objectives and meet the requirements of Proposition 218. The revenue requirements from the residential and non-residential classes are consistent with the cost of service.

During the previous rate study (RFC, 2013), it was determined that the revenue increases needed for FY 2016 without the drought was three percent. Thus, the first tier rate increases were kept at three percent. This effectively places all the additional expenses related to the drought on the second and third tier. The effect is two-fold – low volume users will not be negatively impacted because of the drought and the conservation message for users with higher usage is stronger. The second tier rate for residential customers is set at the average rate of water, which is the rate that would be charged to all customers if the City has a uniform water rate structure; this tier includes the proportional share of the Desal operating costs. The third tier rate for residential customers is the balance needed to recover the revenue requirements from the residential class. All residential customers benefit from the rates in the first tier to meet health and sanitation needs. Similarly, the first tier rate for non-residential customers is increased by three percent and includes a proportional portion of the Desal operating costs. The remaining revenue requirements for the non-residential class are recovered in the second tier rate.

During rate study development, Council directed staff to include full funding of the main replacement program at $4.7 million (shown in **Table 2**). These CIP costs are recovered equally for all customer classes on the volumetric rates, since all customers benefit from this program and the fixed charges could not be increased further (in compliance with CUWCC guidelines that fixed revenues are no more than 30 percent of total revenues).

Table 4 shows the proposed water rates for FY 2016.

Table 4
Proposed Water Rates Schedule

		Effective July 2015
Monthly Water Meter Service Charge		
Meter Size		
5/8"		$23.49
3/4"		$34.19
1"		$55.61
1 1/2"		$109.14
2"		$173.38
3"		$376.82
4"		$676.61
6"		$1,393.98
8"		$2,571.74
10"		$4,070.71
Water Service Rates		
SFR		
Tier 1	First 4 hcf	$4.20
Tier 2	Next 12 hcf	$8.51
Tier 3	All other hcf	$18.59
MFR		
Tier 1	First 4 hcf	$4.20
Tier 2	Next 4 hcf	$8.51
Tier 3	All other hcf	$18.59
Commercial/Industrial		
Tier 1	100% of allocation	$6.53
Tier 2	All other hcf	$15.24
Irrigation - Residential/Commercial		
Tier 1	100% of allocation	$8.51
Tier 2	All other hcf	$18.59
Irrigation - Recreation/Parks/Schools		
Tier 1	100% of allocation	$3.70
Tier 2	All other hcf	$18.59
Irrigation - Agriculture		
Tier 1	100% of allocation	$2.43
Tier 2	All other hcf	$18.59
Recycled Water		
Tier 1	100% of allocation	$2.96
Tier 2	All other hcf	$14.88
Outside City Limits		130%

Note: Base allotment = average monthly consumption during the most recent Jan-Jun period
Note: Irrigation allocation based on acreage, weather, and plant factor for each customer class

Customer Impacts

The following tables show the monthly bill impacts under the proposed water rates for various customer classes at various water usage levels. A typical single family with a 5/8" meter and an average usage of 12 hcf per month will experience an increase of $29.91 per bill, as shown in **Table 5**.

Table 5
Single Family Residential Bill Impacts

Usage Level	Monthly Usage (hcf)	Existing Bill	Proposed Bill	Difference
Very Low	4	$27.34	$40.29	$12.95
Low	8	$52.90	$74.33	$21.43
Average Customer	12	$78.46	$108.37	$29.91
High	24	$211.54	$291.13	$79.59
Very High	32	$319.06	$439.85	$120.79

Table 6 shows the impacts to multi-family residential customers, assuming a 5/8" meter.

Table 6
Multi-Family Residential Bill Impacts

Usage Level	Monthly Usage (hcf)	Existing Bill	Proposed Bill	Difference
Very Low	4	$27.34	$40.29	$12.95
Low	6	$40.12	$57.31	$17.19
Average Allocation	8	$52.90	$74.33	$21.43
Very High	16	$160.42	$223.05	$62.63

Table 7 shows the impacts to non-residential customers, assuming a 1" meter and usage within their allocation.

Table 7
Non-Residential Bill Impacts

Customer Class	Avg Monthly Usage (hcf)	Existing Bill	Proposed Bill	Difference
Commercial/Industrial	31	$197.15	$258.04	$60.89
Irrigation - Recreation/Parks/Schools	22	$93.61	$137.01	$43.40
Irrigation - Agriculture	67	$136.75	$218.42	$81.67

References

RFC, 2013. City of Santa Barbara *Water Financial Plan & Rate Study Report*, August 2013.
RFC, 2014. City of Santa Barbara *Water Drought Rates Development for Fiscal Year 2015.* Memorandum from Sudhir Pardiwala/Hannah Phan to Cathy Taylor dated May 5, 2014.