



METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Treated Water Cost Recovery Alternatives

March 14, 2016



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March 14, 2016

Ms. June Skillman
Budget and Financial Planning Manager
Metropolitan Water District of Southern California
700 North Alameda Street
Los Angeles, CA 90012 - 2944

Subject: Treated Water Cost Recovery Alternatives

Dear Ms. Skillman,

Raftelis Financial Consultants, Inc. (RFC) is pleased to provide this report detailing our study of and recommendations for treated water cost recovery and for alternatives to the current treated water surcharge used by the Metropolitan Water District of Southern California (Metropolitan).

This report summarizes RFC's key findings and discusses the methodologies we utilized to develop our recommendations. It has been a pleasure working with you and other members of the Metropolitan Staff. Thank you for the support provided during the course of this study.

Sincerely,

RAFTELIS FINANCIAL CONSULTANTS, INC.

A handwritten signature in blue ink that reads 'Richard D. Giardina'.

Richard D. Giardina, CPA
Executive Vice President

A handwritten signature in blue ink that reads 'John G. Wright'.

John Wright, CPA
Senior Consultant

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SECTION 1: INTRODUCTION

1.1 PURPOSE OF THE CONSULTING ENGAGEMENT

On October 26, 2015, the Metropolitan Water District of Southern California (Metropolitan) engaged Raftelis Financial Consultants, Inc. (RFC) to develop potential alternatives and recommend, as appropriate, changes to Metropolitan's existing treated water surcharge which is currently assessed as a 100% volumetric rate per acre foot (AF) of treated water purchases by a member agency. The primary objective of the study was to identify and analyze alternative treated water cost recovery mechanisms that:

- » Comply with industry standard cost of service principles
- » Better align treated water cost recovery from member agencies with service commitments and treated water infrastructure capital investments made by Metropolitan
- » Achieve a level of fixed revenue recovery that does not vary with treated water sales

1.2 BOARD/MEMBER AGENCY PRESENTATIONS

RFC made three separate presentations at Metropolitan on potential modifications to the treated water rate design. These presentations were made at the:

- » Member Agency Manager's Meeting: January 15, 2016
- » Finance and Insurance Committee Meeting: February 23, 2016
- » Finance and Insurance Committee Meeting: March 7, 2016

Copies of the presentation materials are included in Attachment A to this report.

SECTION 2: EXISTING TREATED WATER SURCHARGE

2.1 TREATED WATER SURCHARGE REVENUE REQUIREMENT

The existing structure of the treated water surcharge, along with all of Metropolitan's existing rates, was first implemented in January 2003, after an extensive strategic planning process that culminated in the development of Rate Structure Framework. Metropolitan's treatment function cost includes capital financing, operating, maintenance and overhead costs for its five treatment plants and is considered separately from other system or functional costs so that separate rates for treated water service may be developed. The fiscal year (FY) 2016-2017 treated water net revenue requirement is \$257 million as shown in Table 1.

Table 1: FY 2016-2017 Treated Water Revenue Requirement Components (\$ Millions)

Cost	Revenue Requirement	Percent of Total
Direct O&M at Water Treatment Plants	\$59	23%
Indirect O&M (Water System Operations, IT, Eng., HR)	46	18%
Administrative and General (Legal, Finance, Audit, Ethics)	30	12%
Capital Costs (Debt Service, PAYGO Capital)	140	54%
LESS: Revenue Offsets / Decline in Reserves	-18	-7%
Total Net Revenue Requirement	\$257	100%

2.2 TREATED WATER SURCHARGE COST ALLOCATIONS

The cost components presented in Table 1 above are allocated to specific cost parameters as part of Metropolitan's comprehensive cost of service study process. These specific cost parameters are:

- » **Fixed Demand Costs** are fixed capital costs associated with debt service and rate-financed capital investments incurred to provide treatment capacity available to meet treated water peak demands.
- » **Fixed Standby Costs** are fixed capital costs associated with debt service and rate-financed capital investments incurred to provide standby treatment services.
- » **Fixed Commodity Costs** include treated water operations and maintenance and capital financing costs that are not related to meeting peak demands or standby service costs.

- » **Variable Commodity Costs** are costs such as chemicals and electric power costs that tend to vary directly with the volume of water supplied.

Table 2 presents the actual allocation of the FY 2016-2017 treatment revenue requirement to each specific cost parameter.

**Table 2: FY 2016-2017 Treated Water Cost Allocations
(\$ Millions)**

Cost Parameter	Revenue Requirement	% of Total
Fixed Commodity Costs	\$135	53%
Fixed Capital Costs		
<i>Fixed Demand</i>	41	16%
<i>Fixed Standby</i>	<u>57</u>	<u>22%</u>
Total Fixed Capital Costs	<u>98</u>	<u>38%</u>
Total Fixed Costs	233	91%
Variable Costs	<u>24</u>	<u>9%</u>
Total Net Revenue Requirement	\$257	100%

2.3 TREATED WATER SURCHARGE RATE DESIGN

The cost allocation process shown in Table 2 notwithstanding, Metropolitan recovers its entire treatment revenue requirement via a volumetric rate per AF. The units of service used in the rate calculation are the forecasted test-year (FY 2016 – 2017) treated water sales to member agencies, expressed on an AF basis – 822,000 AF. The forecasted test-year water sales of 822,000 AF was allocated to each member agency based on the percentage of actual water purchases by member agencies for FY 2014 – 2015. Table 3 illustrates the Treated Water Surcharge calculation for the FY 2016 - 2017 test year – \$313 per AF.

Table 3: FY 2016-2017 Treated Water Surcharge Rate Calculation

Description	Amount
Treated Water Net Revenue Requirement	\$257,479,354
Forecasted Treated Water Sales (AF)	<u>822,000</u>
Treated Water Surcharge (\$/AF)	\$313

Table 4 shows the hypothetical treated water surcharge for each Metropolitan member agency for test-year FY 2016-2017 under the existing treatment surcharge (referred to as “Status Quo” in Table 4 and throughout the balance of this report). These revenue requirement estimates have been termed as being “hypothetical” because the illustrated revenue requirement outcomes are based on estimates of member agency treated water purchases. Actual FY 2016-2017 treated water purchases may differ from those shown in Table 4.

Table 4: FY 2016-2017 Member Agency Treated Water Revenue Requirement

FY 2016/17 Status Quo Treatment Surcharge (100% Volumetric) (HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	Projected Test Year Treated Water Sales		x	Total Revenue Requirement	=	Member Agency Revenue Requirement
	AF	%				
Anaheim	3,947	0.48%	x	\$257,479,354	=	\$1,236,208
Beverly Hills	10,212	1.24%	x	257,479,354	=	3,198,735
Burbank	6,354	0.77%	x	257,479,354	=	1,990,241
Calleguas	88,943	10.82%	x	257,479,354	=	27,860,023
Central Basin	27,937	3.40%	x	257,479,354	=	8,750,956
Compton	0	0.00%	x	257,479,354	=	87
Eastern	53,248	6.48%	x	257,479,354	=	16,679,159
Foothill	7,461	0.91%	x	257,479,354	=	2,337,078
Fullerton	7,639	0.93%	x	257,479,354	=	2,392,937
Glendale	15,693	1.91%	x	257,479,354	=	4,915,618
Inland Empire	0	0.00%	x	257,479,354	=	0
Las Virgenes	20,314	2.47%	x	257,479,354	=	6,362,979
Long Beach	42,391	5.16%	x	257,479,354	=	13,278,470
Los Angeles	61,097	7.43%	x	257,479,354	=	19,137,588
MWDOC	141,285	17.19%	x	257,479,354	=	44,255,500
Pasadena	17,238	2.10%	x	257,479,354	=	5,399,667
San Diego CWA	97,266	11.83%	x	257,479,354	=	30,467,286
San Fernando	92	0.01%	x	257,479,354	=	28,723
San Marino	673	0.08%	x	257,479,354	=	210,923
Santa Ana	4,929	0.60%	x	257,479,354	=	1,543,796
Santa Monica	3,920	0.48%	x	257,479,354	=	1,227,816
Three Valleys	36,641	4.46%	x	257,479,354	=	11,477,206
Torrance	14,919	1.81%	x	257,479,354	=	4,673,233
Upper San Gabriel	8,350	1.02%	x	257,479,354	=	2,615,453
West Basin	103,936	12.64%	x	257,479,354	=	32,556,355
Western MWD	47,515	5.78%	x	\$257,479,354	=	\$14,883,317
TOTAL	822,000	100.00%				\$257,479,354
				Unit Cost per AF		\$313

2.4 DECLINING WATER SALES AND THE EXISTING SURCHARGE

As part of Metropolitan's fundamental mission, it must stand ready to meet the treated water base load, peak load, and emergency standby demands of its 26 member agencies. This includes member agencies who, due to a variety of reasons including the development of their own local treated water supplies, have significantly reduced their annual treated water purchases from Metropolitan. To fulfill this mission Metropolitan in fact made significant investments in treatment capacity based on the actual demands of the member agencies. As shown in Figure 1, Metropolitan

increased its installed water treatment capacity from approximately 3,000 cubic feet per second (cfs) in 1995 to 4,000 cfs in 1997. This increase in water treatment plant capacity was entirely appropriate given that member agency annual non-coincident peak demands during the period of approximately 2003 - 2007 equaled or exceeded 3,000 cfs.

Metropolitan has invested in the water treatment capacity to serve the demands of *all* member agencies *regardless* of the amount of treated water they purchase in any given year. Unfortunately, due to the 100% volumetric nature of the existing treated water surcharge, many member agencies do not necessarily pay their *proportionate share* of Metropolitan water treatment costs. In a retail service arrangement the customer base is largely if not entirely “captive”, i.e., without service provider options. Such a service relationship (retail service) is less likely to result in the magnitude of under-utilized capacity that Metropolitan has experienced.

In Metropolitan’s situation many member agencies have treated water alternatives and have exercised these options. This, in combination with a 100% volumetric treated water cost recovery mechanism, results in the current misalignment in the service provided and revenues collected across the 26 member agencies. If this situation persists, Metropolitan may have no option but to reduce the treated water service commitment it provides to member agencies from the perspective of both peak demand and emergency standby capacity. This could potentially entail the decommissioning of significant amounts of “stranded” water treatment assets. This will raise even more complex questions regarding how the unrecovered costs of stranded water treatment assets should be apportioned among member agencies.

A simple example for a hypothetical member agency illustrates this cost recovery dilemma. Assume that Metropolitan invested in additional treatment plant capacity in 2006 based, at least in part, on a demand forecast from a member agency indicating that their treated water purchases would increase from 50,000 AF in 2006 to 100,000 AF in 2017 and that Metropolitan invests in treatment capacity to meet this demand. If the member agency's demand forecast was perfectly accurate and they purchase 100,000 AF of treated water in 2017, the member agency will make a proportionate contribution to the recovery of the Metropolitan's water treatment costs.

Now assume that after Metropolitan has invested in capacity, the member agency purchases only 50,000 AF from Metropolitan in 2017. In this situation, the member agency would not be making a proportionate contribution to the recovery of the costs Metropolitan incurs to maintain 100,000 AF of water treatment capacity for the member agency. The resulting cost recovery shortfall must be borne by other member agencies who continue to purchase all, or at least the vast majority, of their required treated water supplies from Metropolitan.

This situation creates a misalignment between the recovery of costs from member agencies and the investments in treated water capacity made by Metropolitan to maintain the service commitment embodied in its organizational mission (i.e., to stand ready to meet the base load, peak load, and emergency standby demands of member agencies). Under the existing 100% volumetric treated water surcharge, as the number of member agencies bypass the Metropolitan treated water system

this misalignment will only worsen. Specifically, the cost of water treatment capacity built to serve all member agencies will increasingly and disproportionately be borne by the limited number of member agencies who remain on Metropolitan's treated water system.

The magnitude of the long-term decline in Metropolitan's treated water demands is shown in Figure 1. This figure compares actual member agency treated water purchases from Metropolitan, expressed on an annual average and summer non-coincident peak day basis, to projected treated water peak demands developed in Metropolitan's 1996 Integrated Resource Plan (IRP). As shown in Figure 1, actual member agency treated water purchases have declined significantly since approximately 2007 and are far below the forecast treated water sales in Metropolitan's 1996 IRP.

Figure 1: Comparison of Forecast vs. Actual Treated Water Sales

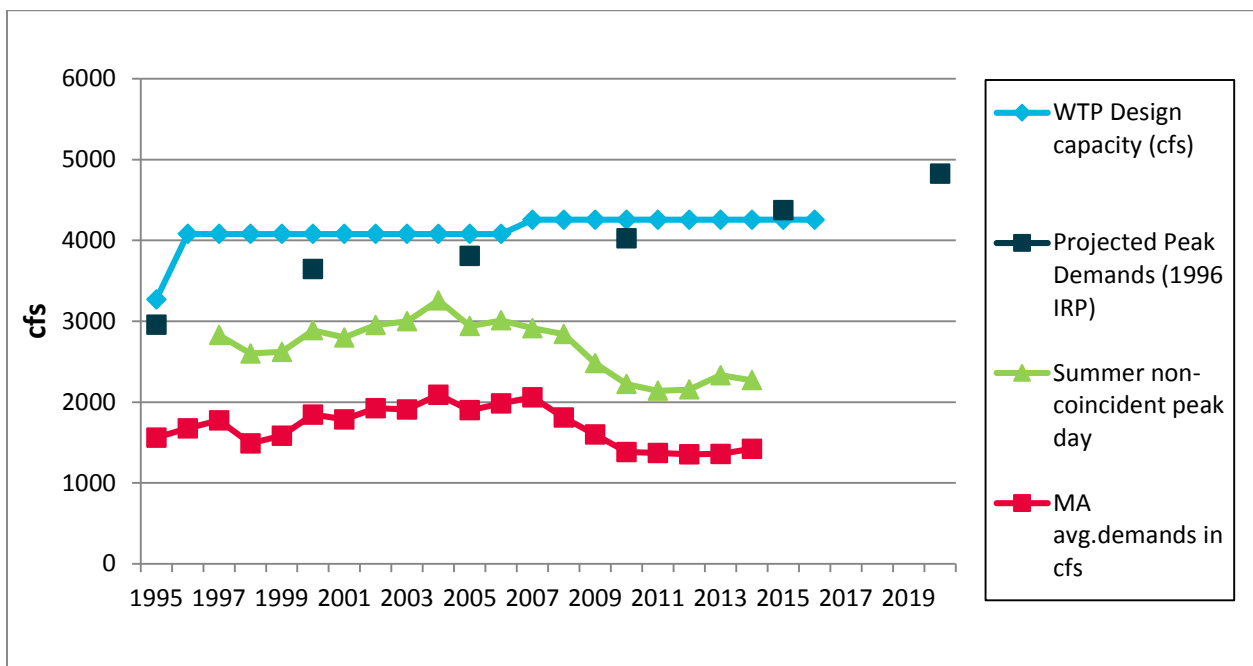
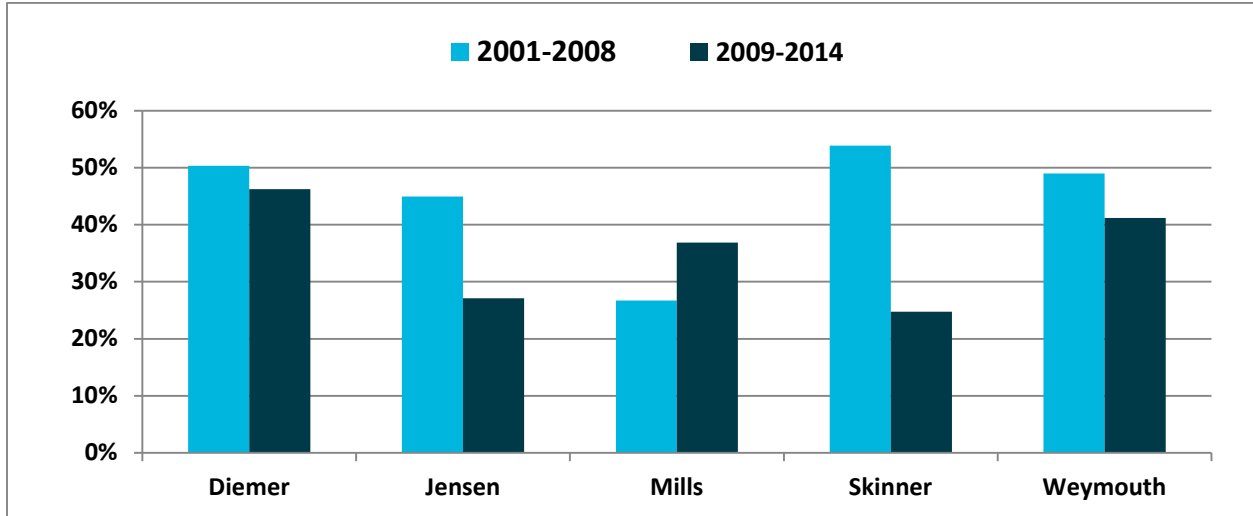


Figure 2 demonstrates the level of excess capacity at Metropolitan's existing water treatment plants due to the long-term decline in Metropolitan treated water sales. The figure compares the Metropolitan treatment plant capacity factors, expressed as the ratio of actual demand to installed capacity, during the period 2001 - 2008 vs. the period 2009 - 2014. As shown in Figure 2, capacity factors at Metropolitan's Jensen and Skinner water treatment plants fell significantly during the period 2009 - 2014.

Figure 2: Water Treatment Plant Capacity Factors



SECTION 3: PROPOSED TREATED WATER SURCHARGE MODIFICATIONS

3.1 FIXED REVENUE RECOVERY VIA A MINIMUM CHARGE

As noted in Section 1.1., the primary objective of this project was to analyze potential alternative treated water rate designs featuring a minimum charge cost recovery mechanism that:

- » Comply with industry standard cost of service principles
- » Better align treated water cost recovery from member agencies with service commitments and treated water infrastructure capital investments made by Metropolitan
- » Achieve a level of fixed revenue recovery that does not vary with treated water sales

RFC recommends the implementation of a treated water surcharge featuring the use of a minimum charge intended to achieve the above objectives. From a conceptual perspective, minimum charges are designed to ensure that the providers of wholesale utility services receive a level of fixed cost recovery to compensate them for the investments they make to construct and maintain a specific level of system capacity *regardless of the actual demands imposed by customers in any given year*. For example, the implementation of a minimum charge as part of Metropolitan's treated water surcharge would allow Metropolitan to receive a level of fixed cost recovery even as treated water sales decline from year-to-year. Stated differently, the use of a minimum charge can serve to have those member agencies for whom treatment capacity was built, pay for that capacity whether or not they use it.

Minimum charges can be implemented in a variety of ways. Perhaps the most common approach is through the use of “take-or-pay” contracts that require the customers of wholesale utility service providers to pay for a specific minimum level of service regardless of their actual water demands. Essentially minimum and take-or-pay approaches are used to ensure that the customer pays for the capacity that was specifically built to serve them. In this way, costs are recovered in a proportional and fully equitable manner from all customers. Specifically, both the current demand-related variable costs customers impose on the wholesale provider's system are recovered. Also recovered are the long-term fixed costs they cause the wholesale service provider to incur through the construction of capacity-related assets specifically designed to meet their actual and/or forecast demands.

As part of this consulting engagement RFC surveyed the wholesale service providers listed in Table 5. Each of these service providers featured the use of some form of fixed revenue recovery as part of their wholesale rate structures as do, in RFC's experience, most wholesale providers. Metropolitan with its 100% volumetric treated water surcharge, is certainly an exception in how it recovers its fixed capacity-related costs from the member agencies.

Table 5: Wholesale Water Service Providers Surveyed by RFC

Massachusetts Water Resource Authority, MA	Great Lakes Water Authority, MI
North Texas Municipal Water District, TX	Jordan Valley Water Conservancy District, UT
Upper Trinity Regional Water District, TX	Dallas Water Utilities, TX
San Francisco Public Utilities Commission, CA	Portland Water Bureau, OR

3.2 KEY INPUTS: MINIMUM CHARGE RATE DESIGN PROCESS

To develop a minimum charge-based rate design, two key inputs must be determined. They are the units of service associated with the minimum charge and specific cost components and/or the level of fixed revenue recovery to be obtained from the minimum charge.

Determination of Minimum Charge Units of Demand: The first critical rate design input is the determination of the units of demand for the minimum purchase amount. RFC believes the appropriate method for establishing this minimum purchase amount for Metropolitan's revised treated water surcharge is to compare the average of actual direct treated water sales made to each member agency during the 10-year period 1998 - 2007 to the most recent 10-year rolling average of treated water sales (TYRA). The *greater* of these two amounts is then selected to establish the units of service used in the determination of the fixed charge.

RFC selected the 10-year period 1998 - 2007 as part of the minimum charge units of service determination because in 2007, Metropolitan made its last significant investment in water treatment plant capacity. This addition of 110 MGD for module 7 at the Skinner water treatment plant was made by Metropolitan in response to both the actual demands of the member agencies and the demand forecasts developed as part of 1996 IRP process (see Figure 1). It is clear from Figure 1 that up to approximately 2007 there was a strong link or connection between member agency water purchases and Metropolitan's capacity to meet those demands.

As noted previously, Figure 1 clearly shows that Metropolitan increased its installed water treatment capacity from approximately 3,000 cfs in 1995 to 4,000 cfs in 1997. This increase in water treatment plant capacity was clearly appropriate given that member agency annual non-coincident peak demands during the period of approximately 2003 - 2007 equaled or exceeded 3,000 cfs. The 1996 IRP demand forecasts could not have anticipated the widespread development of local treated water supplies by member agencies and other factors that may have contributed to the reduction in treated water sales to member agencies. As a result, they (the demand forecasts) provide a direct rationale for why Metropolitan made investments to construct and maintain its existing level of water treatment plant capacity.

Figure 3 summarizes the 2-part test recommended by RFC to determine the minimum units of service needed for RFC's recommended treated water minimum methodology.

Figure 3: Determining Minimum Charge Units of Service

**2-Part Test for Determining Fixed Charge Minimum Units of Demand
for Each Member Agency**

Greater of average annual AF:

1. Most recent or current TYRA of Treated Water Sales *OR*
2. Average of 1998 – 2007 Treated Water Sales*

*2007 was the last significant Metropolitan treatment plant capacity addition

Determination of the Amount of Fixed Revenue Recovery: The second critical rate design input in the determination of a minimum charge is the amount of fixed revenue recovery to be obtained via the minimum charge. RFC believes the appropriate level of fixed revenue recovery to be obtained from a treated water minimum charge is the sum of water treatment fixed demand and fixed standby costs. As noted in Section 2.2, these two cost parameters reflect the fixed capital associated with debt service and rate-financed capital investments incurred to meet Metropolitan's peak demand and standby capital cost requirements. For FY 2016-2017, they total approximately \$98 million, or 38% of Metropolitan's total \$257 million treated water revenue requirement (see Table 2 in Section 2.2).

Under RFC's proposal, the net remaining treated water revenue requirement of approximately \$160 million, or approximately 62% will continue to be recovered based on the current volumetric \$/AF rate based on the forecast of member agency test-year direct treated water sales. Figure 4 illustrates this proposed cost recovery split.

Figure 4: Proposed Treated Water Revenue Recovery Percentages

» **Volumetric Revenue Recovery = 62%**

$$\frac{\text{Revenue Requirement}}{\text{Treated Water Sales}} = \$/AF \text{ Volumetric Rate}$$

» **Fixed Revenue Recovery = 38%**

$$\text{Revenue Requirement} * \text{Proportional Demand} = \$ \text{ Annual Fixed Charge}$$

3.3 DETAILED CALCULATION OF RFC'S PROPOSED MINIMUM CHARGE

Table 6 shows the calculation of the current 100% volumetric treated water surcharge (the Status Quo Surcharge) followed by the revised components under RFC's proposal to incorporate a fixed charge/minimum charge.

Table 6: Calculation of RFC's Proposed Treated Water Surcharge

Status Quo Treatment Surcharge (\$/AF)	
Total Treatment Revenue Requirement	\$257,479,354
Forecast Treated Water Sales (AF) - See Table 4 in Section 2.3	<u>822,000</u>
Treated Surcharge (\$/AF)	\$313
Treatment Fixed Annual Charge (\$/AF) - 38% Revenue Recovery	
Fixed Demand	\$40,822,844
Fixed Standby	56,724,561
Total Fixed Charge Revenue Requirement	\$97,547,405
% of Total Revenue Requirement	37.9%
Fixed Charge Units of Service (AF) - See Table 7	<u>1,341,701</u>
Annual Fixed Charge (\$/AF)	\$73
Treatment Volumetric Rate (\$/AF) - 62% Revenue Recovery	
Net Remaining Revenue Requirement	\$159,931,949
% of Total Revenue Requirement	62.1%
Forecast Treated Water Sales (AF) - See Table 4 in Section 2.3	<u>822,000</u>
Volumetric Rate (\$/AF)	\$195

Table 7 shows the member agency revenue requirement impacts associated with RFC's proposed minimum charge calculation and the units of demand referenced in Table 6 above. On Table 7 RFC has highlighted in yellow the acre-feet value (the units of service) that is used in the determination of each member agency's proportionate share of the Fixed Charge Revenue Requirement.

Table 7: Minimum Charge Revenue Requirement

FY 2016/2017 Member Agency Fixed Charge Revenue Requirement (38% Revenue Recovery)							
(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)							
Member Agency	Average 1998 - 2007 Treated Water Sales (AF)	TYRA 2006 - 2015 Treated Water Sales (AF)	Units Used in Fixed Charge Calculation	% of Total	x	Total Fixed Charge Revenue Requirement	= Member Agency Annual Fixed Revenue Requirement
Anaheim	13,134	12,126	13,134	0.98%	X	\$97,547,405	\$954,911
Beverly Hills	13,008	11,386	13,008	0.97%	x	97,547,405	945,725
Burbank	12,816	10,089	12,816	0.96%	x	97,547,405	931,758
Calleguas	112,585	114,712	114,712	8.55%	x	97,547,405	8,340,091
Central Basin	67,191	46,198	67,191	5.01%	x	97,547,405	4,885,071
Compton	3,514	1,924	3,514	0.26%	x	97,547,405	255,451
Eastern	73,423	73,323	73,423	5.47%	x	97,547,405	5,338,173
Foothill	11,623	9,933	11,623	0.87%	x	97,547,405	845,074
Fullerton	11,513	11,072	11,513	0.86%	x	97,547,405	837,031
Glendale	25,094	19,585	25,094	1.87%	x	97,547,405	1,824,421
Inland Empire	0	0	0	0.00%	x	97,547,405	0
Las Virgenes	22,106	22,810	22,810	1.70%	x	97,547,405	1,658,376
Long Beach	44,267	36,397	44,267	3.30%	x	97,547,405	3,218,416
Los Angeles	79,762	87,950	87,950	6.56%	x	97,547,405	6,394,377
MWDOC	244,203	204,975	244,203	18.20%	x	97,547,405	17,754,580
Pasadena	21,779	21,181	21,779	1.62%	x	97,547,405	1,583,398
San Diego CWA	251,381	156,458	251,381	18.74%	x	97,547,405	18,276,450
San Fernando	387	206	387	0.03%	x	97,547,405	28,135
San Marino	1,041	931	1,041	0.08%	x	97,547,405	75,664
Santa Ana	15,788	13,331	15,788	1.18%	x	97,547,405	1,147,853
Santa Monica	12,627	9,252	12,627	0.94%	x	97,547,405	918,014
Three Valleys	49,467	41,833	49,467	3.69%	x	97,547,405	3,596,498
Torrance	21,052	18,130	21,052	1.57%	x	97,547,405	1,530,565
Upper San Gabriel	13,963	7,346	13,963	1.04%	x	97,547,405	1,015,173
West Basin	145,421	125,668	145,421	10.84%	x	97,547,405	10,572,734
Western MWD	61,511	63,538	63,538	4.74%	x	\$97,547,405	4,619,464
TOTAL	1,328,654	1,120,354	1,341,701	100.00%			\$97,547,405
						Annual Fixed Charge (\$/AF)	\$73

Table 8 calculates the estimate change in each member agency’s revenue requirement under RFC’s proposed minimum charge treated water surcharge with fixed revenue recovery and the existing 100% volumetric treated water surcharge (referred to as “Status Quo” in Table 8).

Table 8: Member Agency Revenue Requirement Comparison

Summary of FY 2016/2017 Member Agency Treatment Revenue Requirement Impacts (HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	Status Quo Treated Water Surcharge	Proposed Rate Design			\$ Difference From Status Quo	% Difference From Status Quo
		Fixed Charge Revenue Requirement	Volumetric Revenue Requirement	Total Revenue Requirement		
Anaheim	\$1,236,208	\$954,911	\$767,864	\$1,722,775	\$486,567	39%
Beverly Hills	3,198,735	945,725	1,986,877	2,932,602	(266,132)	-8%
Burbank	1,990,241	931,758	1,236,228	2,167,985	177,745	9%
Calleguas	27,860,023	8,340,091	17,305,107	25,645,198	(2,214,825)	-8%
Central Basin	8,750,956	4,885,071	5,435,611	10,320,681	1,569,725	18%
Compton	87	255,451	54	255,505	255,418	> 100%
Eastern	16,679,159	5,338,173	10,360,172	15,698,345	(980,813)	-6%
Foothill	2,337,078	845,074	1,451,664	2,296,738	(40,340)	-2%
Fullerton	2,392,937	837,031	1,486,361	2,323,392	(69,545)	-3%
Glendale	4,915,618	1,824,421	3,053,310	4,877,732	(37,886)	-1%
Inland Empire	0	0	0	0	0	0%
Las Virgenes	6,362,979	1,658,376	3,952,331	5,610,707	(752,272)	-12%
Long Beach	13,278,470	3,218,416	8,247,852	11,466,268	(1,812,202)	-14%
Los Angeles	19,137,588	6,394,377	11,887,212	18,281,589	(855,999)	-4%
MWDOC	44,255,500	17,754,580	27,489,072	45,243,652	988,152	2%
Pasadena	5,399,667	1,583,398	3,353,975	4,937,373	(462,295)	-9%
San Diego CWA	30,467,286	18,276,450	18,924,595	37,201,045	6,733,759	22%
San Fernando	28,723	28,135	17,841	45,976	17,253	60%
San Marino	210,923	75,664	131,014	206,678	(4,245)	-2%
Santa Ana	1,543,796	1,147,853	958,921	2,106,774	562,978	36%
Santa Monica	1,227,816	918,014	762,651	1,680,665	452,849	37%
Three Valleys	11,477,206	3,596,498	7,129,006	10,725,505	(751,701)	-7%
Torrance	4,673,233	1,530,565	2,902,754	4,433,319	(239,914)	-5%
Upper San Gabriel	2,615,453	1,015,173	1,624,575	2,639,748	24,295	1%
West Basin	32,556,355	10,572,734	20,222,209	30,794,944	(1,761,412)	-5%
Western MWD	14,883,317	4,619,464	9,244,694	13,864,158	(1,019,159)	-7%
TOTAL	\$257,479,354	\$97,547,405	\$159,931,949	\$257,479,354	\$0	0%

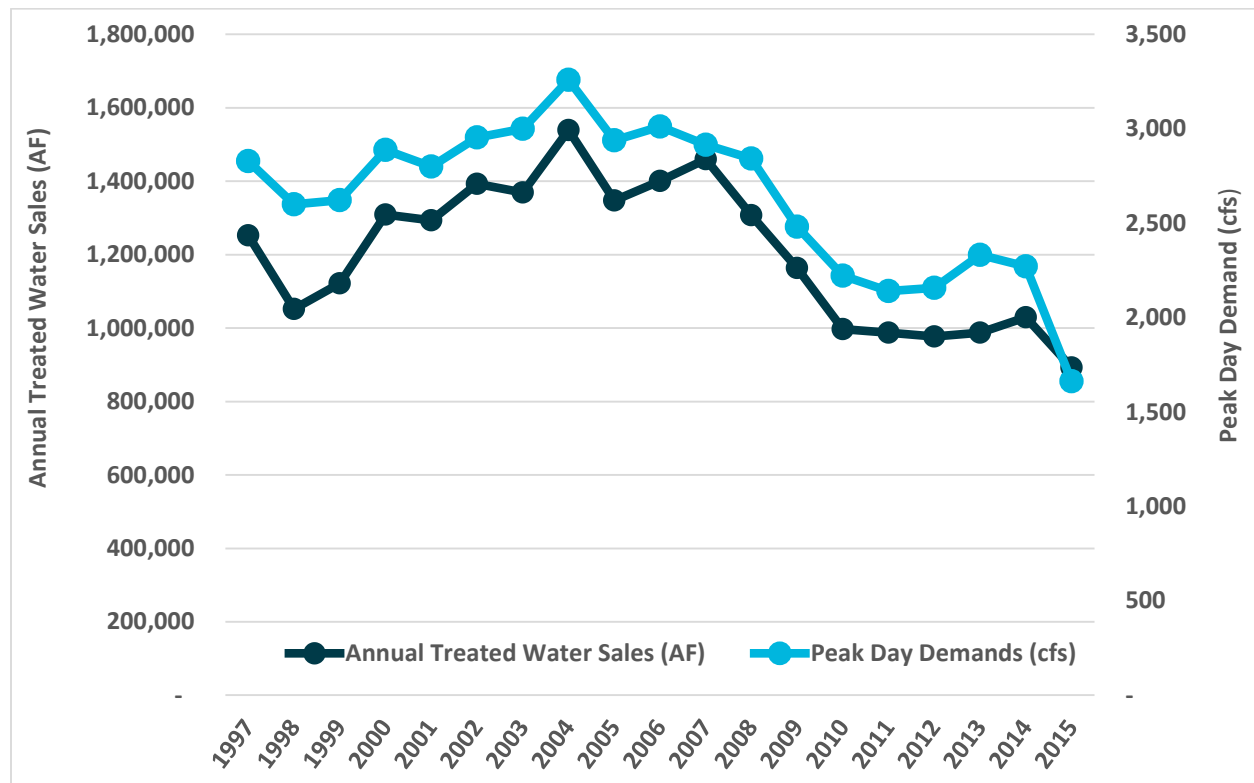
3.4 QUESTIONS REGARDING RFC'S PROPOSED TREATED WATER SURCHARGE

RFC's presented its proposed treated water surcharge at the Member Agency Manager's Meeting on January 15, 2016. At this meeting, RFC was asked two specific questions regarding its proposal and these questions are discussed below.

Why Doesn't RFC Include Peak Demands in its Minimum Charge Calculation? As discussed previously, RFC's proposed treated water surcharge compares member agency average annual direct treated water purchases during the period 1998 - 2007 against their most recent TYRA and uses the greater of the two values. RFC believes that peak demands are incorporated within these two metrics because member agency's non-coincident peak demands contribute to their annual treated water purchases. To confirm this hypothesis, Metropolitan Staff conducted an analysis of the mathematical correlation between member agency annual direct treated water purchases to their non-coincident peak demands. The result of this analysis produced a statistically significant

correlation coefficient of 0.95 which confirms RFC's hypothesis that the use of average annual direct treated water sales within the minimum charge calculation does effectively reflect member agency peak water usage characteristics. Figure 5 provides a graphical representation of the Metropolitan Staff analysis.

Figure 5: Correlation between Annual Water Purchases and Peak Water Demand



Notwithstanding Figure 5's demonstration of the strong correlation between member agency annual treated water purchase volumes and their non-coincident peak day demands, some members of the Board have expressed continuing interest in minimum charge rate that includes a peaking component. This alternative to RFC's recommended treated water surcharge rate design with a minimum is discussed more fully below.

Do Member Agencies Ever Stop Paying RFC's Proposed Minimum Charge? Under RFC's proposal, member agencies will continue to pay a minimum charge as long as Metropolitan continues to have an annual treated water revenue requirement AND for as long as Metropolitan is obligated to provide demand and standby service to a member agency. Thus, absent an "agreement" to discontinue the provision of demand and standby service, each member agency will continue to pay the minimum charge on a perpetual basis. Going forward with the RFC recommended minimum charge proposal or the alternative described below, Metropolitan and the member agencies should work cooperatively to assess current and future water treatment capacity in light of member agency decisions to continue to pursue development of local treated water supplies.

However, and in response to member agency concerns that the minimum charge does not end, RFC developed an alternative calculation based on the use of both the current TYRA of member agency direct treated water purchases and the maximum peak day demands of each member agency over the most recent three-year period without any minimum purchase requirement. This alternative has been labelled the “TYRA with Peaking and No Minimum” alternative.

Under this approach member agencies could avoid paying the treated water surcharge if they have no purchase volumes for a period of ten years. While this is not RFC’s preferred approach it certainly can be considered a middle ground or compromise between the current 100% volumetric method and the RFC minimum method. Nonetheless, this is not RFC’s preferred alternative because, while member agencies would be required to contribute in a fixed manner for the next ten years, it does not solve the dilemma of the misalignment between the recovery of costs from member agencies and the investments in treated water capacity made by Metropolitan to maintain the service commitment embodied in its organizational mission (i.e., to stand ready to meet the base load, peak load, and emergency standby demands of member agencies).

Specifically, cost recovery for the treated water revenue requirement will continue to be increasingly and disproportionately borne by the limited number of member agencies who remain on Metropolitan’s treated water system. However, the “TYRA with Peaking and No Minimum” alternative would still provide member agencies with an incentive to pursue local treated water investments while providing Metropolitan some measure of fixed charge revenue as Metropolitan considers the potential for “right-sizing” its treated water capacity and the associated service commitment it makes to member agencies. In this regard, the “TYRA with Peaking and No Minimum” is somewhat of an analog of Metropolitan’s current Readiness-To-Service charge which is based on a TYRA with no minimum.

Table 9 shows the member agency revenue requirement impacts associated with the use of the current Status Quo method, the RFC recommended treated water surcharge rate design with a minimum, and the “TYRA with Peaking and No Minimum” alternatives. The “TYRA with Peaking and No Minimum” alternative is based on member agency average annual treated water sales for the period FY 2005 - 2006 through FY 2014 - 2015 and the maximum member agency average non-coincident peak day treated water demand recorded during the most recent three-year period FY 2012 - 2013 through FY 2014 - 2015.

Table 9: Revenue Requirement Summary by Alternative

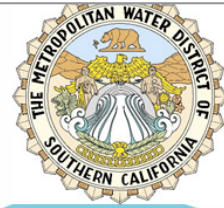
FY 2016/2017 Member Agency Revenue Requirement Impacts			
(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)			
Member Agency	Status Quo Treated Water Surcharge	Minimum: > of 1998-2007 OR 2006-2015 TYRA	2006 - 2015 TYRA and 2013 - 2015 Max Day Peak (NO MINIMUM)
Anaheim	\$1,236,208	\$1,722,775	\$1,938,655
Beverly Hills	3,198,735	2,932,602	3,082,526
Burbank	1,990,241	2,167,985	2,127,710
Calleguas	27,860,023	25,645,198	27,227,242
Central Basin	8,750,956	10,320,681	9,013,566
Compton	87	255,505	146,555
Eastern	16,679,159	15,698,345	17,477,333
Foothill	2,337,078	2,296,738	2,289,889
Fullerton	2,392,937	2,323,392	2,420,474
Glendale	4,915,618	4,877,732	4,800,440
Inland Empire	0	0	0
Las Virgenes	6,362,979	5,610,707	5,989,741
Long Beach	13,278,470	11,466,268	11,231,573
Los Angeles	19,137,588	18,281,589	19,904,000
MWDOC	44,255,500	45,243,652	44,140,525
Pasadena	5,399,667	4,937,373	5,310,949
San Diego CWA	30,467,286	37,201,045	32,672,978
San Fernando	28,723	45,976	110,708
San Marino	210,923	206,678	300,429
Santa Ana	1,543,796	2,106,774	1,964,334
Santa Monica	1,227,816	1,680,665	1,613,329
Three Valleys	11,477,206	10,725,505	11,399,499
Torrance	4,673,233	4,433,319	4,395,266
Upper San Gabriel	2,615,453	2,639,748	2,351,389
West Basin	32,556,355	30,794,944	30,460,636
Western MWD	14,883,317	13,864,158	15,109,607
Total	\$257,479,354	\$257,479,354	\$257,479,354

3.5 OTHER OPTIONS ANALYZED BY RFC

As discussed above, RFC calculated several alternative treated water surcharge methodologies – all having some fixed revenue component. The first, which is fully developed in Section 3.3 is RFC's recommended treated water surcharge featuring a minimum charge. The second, as discussed in Section 3.4, is a treated water surcharge based on the current TYRA of member agency direct treated water purchases without a minimum. In addition to these alternatives, RFC also analyzed, and presented to the Board, the member agency revenue requirement impacts of other treated water proposals including a minimum charge that reflected a member agencies non-coincident peak demands and a 20-year rolling average without a minimum charge. The results of these options are summarized in Attachment B.

ATTACHMENT A:
PRESENTATIONS





MWD Manager's Meeting

Consideration of Alternative Treatment Cost Recovery Mechanism

January 15, 2016

Objectives-Goals

- Objective – Fixed Charge Concept
 - Cost of Service
 - Align charges with service commitment/investment
 - Cost recovery – revenue stability



Treatment Fixed Charge Concept

- 39% of total Treatment revenue requirements
 - Cost of Service Based: Sum of Treatment Demand and Standby costs
 - Used to develop fixed or demand charge

Fixed Cost Recovery - An Industry Perspective

- Cost-of-service considerations – What is the cost of providing standby service; on-demand service?
- Declining water use driving trend to increase in fixed cost recovery – fixed revenues

Align Charges with Service Commitment/Investment

- MWD is the treated water service provider for Member Agencies
- MWD service obligation – be capable of meeting average and peak day treated water demands of Member Agencies
- Investment in treatment capacity designed to meet the needs of Member Agencies
- Meet average and peak day demands AND provide standby and on-demand capacity



Treatment Fixed Charge Concept (\$ millions)

FY 2014/15 Treatment Revenue Requirement	
Direct O&M at WTPs	\$70
Indirect O&M (WSO, IT, Eng., HR)	49
A&G (Legal, Finance, Audit, Ethics)	24
Capital Costs (Debt, PAYGO)	177
	57% of Total
LESS: Revenue Offsets (Prop. Tax, Interest)	-10
TOTAL Net Revenue Requirement	\$310



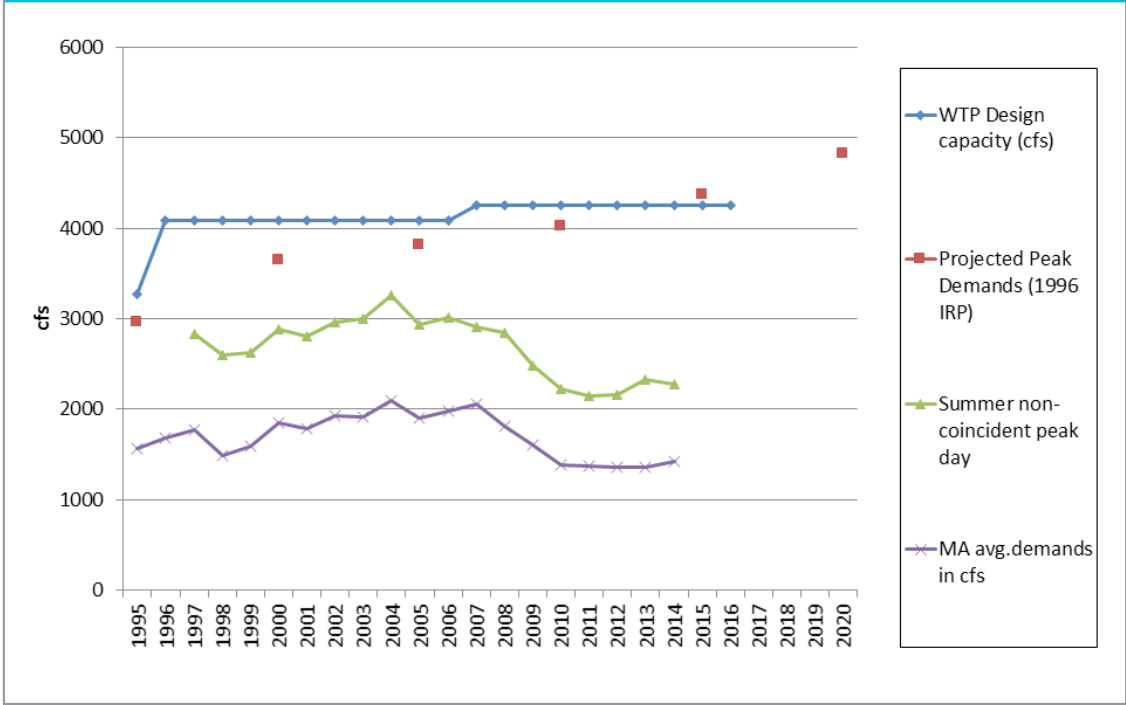
Treatment Fixed Charge Concept (\$ millions)

FY 2014/15 Treatment Revenue Requirement		\$310 (100%)
Variable		\$30 (10%)
Fixed		\$280 (90%)
Commodity	\$160	
Demand	\$54	39% of Total
Standby	\$66	

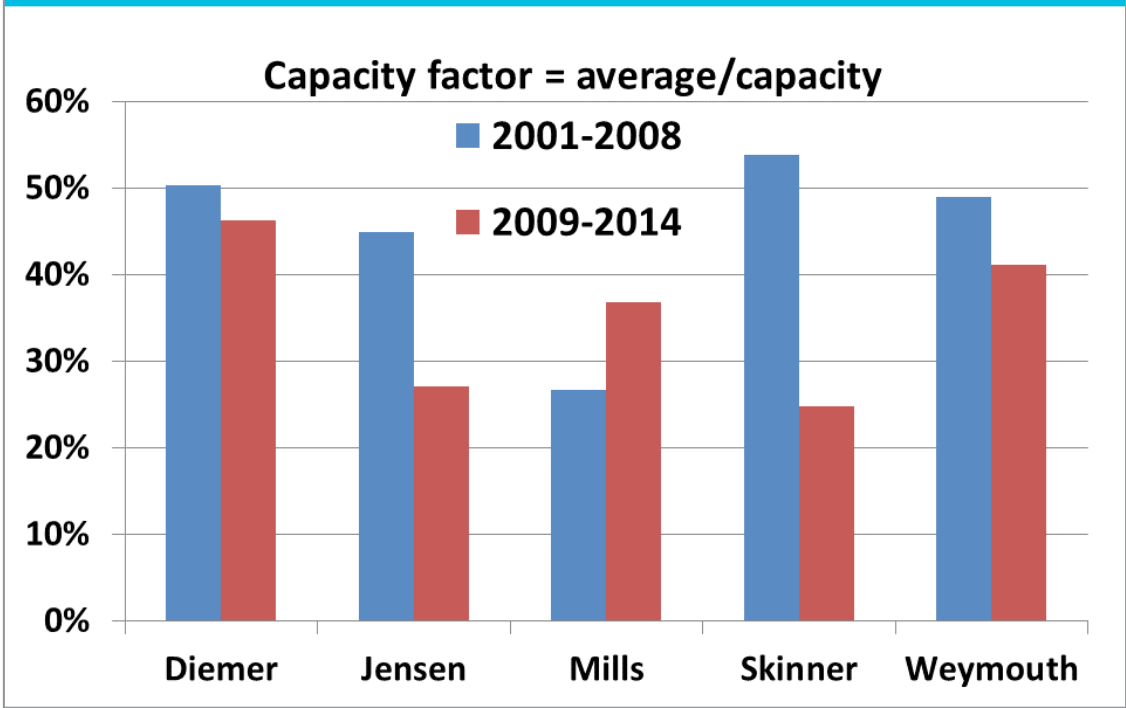
Current Treatment Surcharge: 100% Volumetric Cost Recovery

- $$\frac{\text{Revenue Requirement}}{\text{Treated Water Sales}} = \$/AF \text{ Volumetric Rate}$$
- Demand and Standby treatment capacity and reduced treated water sales revenue
- Potential for Member Agencies to stop using the MWD treatment system and make no contribution to Standby and Demand-related costs
- MWD retains the obligation to serve Member Agencies

Long-Term Treated Water Demand Has Not Materialized



WTP Utilization Has Declined



Align Charges with Service Commitment/Investment

Cost of Service principles, i.e., pay for the service provided:

Member Agencies pay only when taking treated water and in effect require all system users to bear the cost burden for standby or on-demand capacity.

MWD has invested in treatment capacity to serve the Member Agencies, but today does not require the beneficiaries of standby or on-demand capacity to pay anything for the cost of this dedicated capacity.



11



Fixed Cost Recovery Cost-of-Service Perspective

- Standby or on-Demand service – “...rate charged should reflect the cost of having capacity reserved and available for the customer.”(1)
 - Fixed Demand Charge – reflect peaking costs and demands
 - Consumption Rate

(1) AWWA M1 Principles of Water Rates, Fees, and Charges, Sixth Edition



12



Fixed Revenue Recovery is Common

Agency	Wholesale Cost Recovery
Massachusetts Water Resource Authority, MA	Customers are assessed a <u>fixed annual amount based on their proportional share of the previous year's demand</u> . FY 2015 assessment = \$3,239 per million gallons. Fixed revenue recovery = 100%.
North Texas Municipal Water District, TX	Customers pay on a volumetric basis. Fixed costs are recovered under <u>take-or-pay contracts based on the higher of estimated test-year demand or the maximum volume of water used in any previous year</u> . FY 2016 fixed charge = \$1.88 per kgal. Estimated fixed revenue recovery = 85%.
Upper Trinity Regional Water District, TX	Customers pay their proportionate share of demand costs under <u>take-or-pay contracts based on a minimum daily volume equal to 18% of their highest peak day demand in the preceding five-year period</u> . FY 2015 annual demand charge = \$388,110 per MGD. Estimated fixed revenue recovery under minimum take-or-pay contracts = 78%.
San Francisco Public Utilities Commission, CA	4 wholesale customers are subject to a <u>take-or-pay requirement specifying a minimum annual volume</u> they must purchase. Estimated fixed revenue recovery from wholesale customers under minimum take-of-pay contracts = 24%.

Fixed Revenue Recovery is Common

Agency	Wholesale Cost Recovery
Great Lakes Water Authority, MI	<u>60% of the annual revenue requirement is estimated to be recovered through a fixed demand charge</u> ; 40% recovered through volumetric rates.
Jordon Valley Water Conservancy District, UT	Each wholesale customer has a <u>contracted take-or-pay minimum purchase volume</u> . Estimated fixed revenue recovery from wholesale customers under minimum take-or-pay contracts = 100%.
Dallas Water Utilities, TX	Wholesale customers pay a <u>fixed demand charge</u> and a volumetric rate. The demand charge is based on the higher of current year demand or the average of the previous five years. Demand charge is \$243,453 per mgd per year and the volumetric rate is \$0.4305 per kgal. Estimated fixed charge revenue from wholesale customers = 60%.
Portland Water Bureau, OR	Wholesale customers specify a <u>minimum annual "guaranteed purchase quantity"</u> as well as seasonal and daily peaking factor. If actual peaking factors exceed those specified, customers must pay a surcharge. Fixed revenue recovery from wholesale customers under minimum take-of-pay contracts = 100%

Current Treatment Surcharge: 100% Volumetric Cost Recovery

- $$\frac{\text{Revenue Requirement}}{\text{Treated Water Sales}} = \$/AF \text{ Volumetric Rate}$$
 - Demand and Standby treatment capacity and reduced treated water sales revenue
 - Potential for Member Agencies to stop using the MWD treatment system and make no contribution to Standby and Demand-related costs
 - MWD retains the obligation to serve Member Agencies



FY 2014/15 Treatment Revenue Requirement (Hypothetical Pro Forma – For Example Only)

Status Quo Treated Surcharge (\$/AF)	
Test-Year Treatment Revenue Requirement	\$310,084,182
Forecast Test-Year Treated Water Sales (AF)	910,000
Treated Surcharge (\$/AF)	\$341



FY 2014/15 Status Quo Treatment Surcharge (100% Volumetric)						
(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	Projected Test-Year Treated Water Sales (AF)	% of Projected Test-Year Treated Water Sales	x	Total Revenue Requirement	=	Member Agency Revenue Requirement
Anaheim	1,394	0.15%	x	310,084,182	=	\$475,123
Beverly Hills	10,287	1.13%	x	310,084,182	=	3,505,190
Burbank	7,797	0.86%	x	310,084,182	=	2,656,917
Calleguas	103,189	11.34%	x	310,084,182	=	35,161,981
Central Basin	30,024	3.30%	x	310,084,182	=	10,230,683
Compton	38	0.00%	x	310,084,182	=	13,108
Eastern	61,274	6.73%	x	310,084,182	=	20,879,356
Foothill	8,662	0.95%	x	310,084,182	=	2,951,477
Fullerton	7,761	0.85%	x	310,084,182	=	2,644,683
Glendale	17,988	1.98%	x	310,084,182	=	6,129,593
Inland Empire	0	0.00%	x	310,084,182	=	0
Las Virgenes	21,012	2.31%	x	310,084,182	=	7,159,725
Long Beach	32,137	3.53%	x	310,084,182	=	10,950,676
Los Angeles	94,789	10.42%	x	310,084,182	=	32,299,550
MWDOC	157,070	17.26%	x	310,084,182	=	53,522,042
Pasadena	20,425	2.24%	x	310,084,182	=	6,959,936
San Diego CWA	101,073	11.11%	x	310,084,182	=	34,440,783
San Fernando	54	0.01%	x	310,084,182	=	18,502
San Marino	1,400	0.15%	x	310,084,182	=	476,901
Santa Ana	9,147	1.01%	x	310,084,182	=	3,116,883
Santa Monica	5,218	0.57%	x	310,084,182	=	1,777,998
Three Valleys	43,866	4.82%	x	310,084,182	=	14,947,472
Torrance	15,219	1.67%	x	310,084,182	=	5,185,916
Upper San Gabriel	3,087	0.34%	x	310,084,182	=	1,051,768
West Basin	106,930	11.75%	x	310,084,182	=	36,436,440
Western MWD	50,158	5.51%	x	310,084,182	=	17,091,478
Total	910,000	100.00%				\$310,084,182
				Unit Cost per AF		\$341

Proposed Treatment Rate Design: Volumetric + Fixed Revenue Recovery

- Volumetric Revenue Recovery = 61%

$$\frac{\text{Revenue Requirement}}{\text{Treated Water Sales}} = \$/\text{AF Volumetric Rate}$$

- Fixed Revenue Recovery = 39%

$$\text{Revenue Requirement} * \text{Proportional Demand} = \$ \text{Annual Fixed Charge}$$

Proposed Treatment Rate Design: Volumetric + Fixed Revenue Recovery

2-Part Test for Minimum Demand

Greater of:

1. TYRA of Treated Water Sales OR
2. Average of 1998 – 2007 Treated Water Sales

2007 was the last significant treatment
plant capacity addition



FY 2014/15 Treatment Revenue Requirement

Hypothetical Pro Forma
For Example Only

Status Quo Treatment Surcharge (\$/AF)	
Total Treatment Revenue Requirement	\$310,084,182
Forecast Treated Water Sales (AF)	910,000
Treated Surcharge (\$/AF)	\$341
Treatment Fixed Annual Charge (\$/AF)	
Fixed Demand	\$53,774,185
Fixed Standby	65,975,221
Total Fixed Charge Revenue Requirement	\$119,749,406
% of Total Revenue Requirement	38.6%
Fixed Charge Units of Service (AF)	1,370,672
Annual Fixed Charge (\$/AF)	\$87
Treatment Volumetric Rate (\$/AF)	
Net Remaining Revenue Requirement	\$190,334,776
% of Total Revenue Requirement	61.4%
Forecast Treated Water Sales (AF)	910,000
Volumetric Rate (\$/AF)	\$209



FY 2014/2015 Member Agency Fixed Charge Revenue Requirement (39% Revenue Recovery)							
(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)							
Member Agency	AVG. 1998 - 2007 Treated Water Sales (AF)	TYRA 2004 - 2013 Treated Water Sales (AF)	Units Used in Fixed Charge Calculation	% of Total	x	Total Fixed Charge Revenue Requirement	= Annual Fixed Revenue Requirement
Anaheim	13,134	15,048	15,048	1.10%	X	\$119,749,406	= \$1,314,649
Beverly Hills	13,008	11,524	13,008	0.95%	x	119,749,406	= 1,136,435
Burbank	12,816	11,349	12,816	0.93%	x	119,749,406	= 1,119,651
Calleguas	120,052	119,878	120,052	8.76%	x	119,749,406	= 10,488,423
Central Basin	67,191	52,462	67,191	4.90%	x	119,749,406	= 5,870,169
Compton	3,628	2,653	3,628	0.26%	x	119,749,406	= 316,958
Eastern	79,560	76,095	79,560	5.80%	x	119,749,406	= 6,950,756
Foothill	11,763	10,904	11,763	0.86%	x	119,749,406	= 1,027,643
Fullerton	11,513	12,534	12,534	0.91%	x	119,749,406	= 1,095,037
Glendale	25,094	20,503	25,094	1.83%	x	119,749,406	= 2,192,327
Inland Empire	0	0	0	0.00%	x	119,749,406	= 0
Las Virgenes	22,106	22,889	22,889	1.67%	x	119,749,406	= 1,999,727
Long Beach	45,747	38,621	45,747	3.34%	x	119,749,406	= 3,996,727
Los Angeles	78,265	88,977	88,977	6.49%	x	119,749,406	= 7,773,525
MWDOC	251,567	231,004	251,567	18.35%	x	119,749,406	= 21,978,241
Pasadena	21,742	21,669	21,742	1.59%	x	119,749,406	= 1,899,477
San Diego CWA	251,298	186,827	251,298	18.33%	x	119,749,406	= 21,954,763
San Fernando	310	291	310	0.02%	x	119,749,406	= 27,047
San Marino	1,041	1,002	1,041	0.08%	x	119,749,406	= 90,922
Santa Ana	15,788	15,677	15,788	1.15%	x	119,749,406	= 1,379,323
Santa Monica	12,627	11,001	12,627	0.92%	x	119,749,406	= 1,103,136
Three Valleys	50,214	45,208	50,214	3.66%	x	119,749,406	= 4,386,930
Torrance	21,052	18,845	21,052	1.54%	x	119,749,406	= 1,839,211
Upper San Gabriel	13,963	10,147	13,963	1.02%	x	119,749,406	= 1,219,888
West Basin	145,424	131,404	145,424	10.61%	x	119,749,406	= 12,705,079
Western MWD	55,888	67,342	67,342	4.91%	x	119,749,406	= 5,883,360
Total	1,344,787	1,223,851	1,370,672	100.00%			\$119,749,406
Annual Fixed Charge (\$/AF)							\$87

FY 2014/2015 Member Agency Volumetric Revenue Requirement (61% Volumetric)						
(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	Projected Test-Year Treated Water Sales (AF)	% of Projected Test-Year Treated Water Sales	x	Total Revenue Requirement	=	Revenue Requirement
Anaheim	1,394	0.15%	X	\$190,334,776	=	\$291,638
Beverly Hills	10,287	1.13%	x	190,334,776	=	2,151,543
Burbank	7,797	0.86%	x	190,334,776	=	1,630,860
Calleguas	103,189	11.34%	x	190,334,776	=	21,583,003
Central Basin	30,024	3.30%	x	190,334,776	=	6,279,762
Compton	38	0.00%	x	190,334,776	=	8,046
Eastern	61,274	6.73%	x	190,334,776	=	12,816,092
Foothill	8,662	0.95%	x	190,334,776	=	1,811,665
Fullerton	7,761	0.85%	x	190,334,776	=	1,623,350
Glendale	17,988	1.98%	x	190,334,776	=	3,762,445
Inland Empire	0	0.00%	x	190,334,776	=	0
Las Virgenes	21,012	2.31%	x	190,334,776	=	4,394,757
Long Beach	32,137	3.53%	x	190,334,776	=	6,721,705
Los Angeles	94,789	10.42%	x	190,334,776	=	19,825,995
MWDOC	157,070	17.26%	x	190,334,776	=	32,852,710
Pasadena	20,425	2.24%	x	190,334,776	=	4,272,123
San Diego CWA	101,073	11.11%	x	190,334,776	=	21,140,320
San Fernando	54	0.01%	x	190,334,776	=	11,357
San Marino	1,400	0.15%	x	190,334,776	=	292,730
Santa Ana	9,147	1.01%	x	190,334,776	=	1,913,194
Santa Monica	5,218	0.57%	x	190,334,776	=	1,091,364
Three Valleys	43,866	4.82%	x	190,334,776	=	9,175,005
Torrance	15,219	1.67%	x	190,334,776	=	3,183,200
Upper San Gabriel	3,087	0.34%	x	190,334,776	=	645,593
West Basin	106,930	11.75%	x	190,334,776	=	22,365,286
Western MWD	50,158	5.51%	x	190,334,776	=	10,491,031
Total	910,000	100.00%				\$190,334,776
Volumetric \$/AF						\$209

Summary of FY 2014/2015 Member Agency Treatment Revenue Requirement Impacts (HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	Status Quo Treated Water Surcharge	Proposed Rate Design			\$ Difference From Status Quo	% Difference From Status Quo
		Fixed Charge Revenue Requirement	Volumetric Revenue Requirement	Total Revenue Requirement		
Anaheim	\$475,123	\$1,314,649	\$291,638	\$1,606,288	\$1,131,165	238%
Beverly Hills	3,505,190	1,136,435	2,151,543	3,287,979	(217,211)	-6%
Burbank	2,656,917	1,119,651	1,630,860	2,750,511	93,594	4%
Calleguas	35,161,981	10,488,423	21,583,003	32,071,426	(3,090,555)	-9%
Central Basin	10,230,683	5,870,169	6,279,762	12,149,931	1,919,248	19%
Compton	13,108	316,958	8,046	325,005	311,896	2379%
Eastern	20,879,356	6,950,756	12,816,092	19,766,848	(1,112,507)	-5%
Foothill	2,951,477	1,027,643	1,811,665	2,839,309	(112,169)	-4%
Fullerton	2,644,683	1,095,037	1,623,350	2,718,387	73,704	3%
Glendale	6,129,593	2,192,327	3,762,445	5,954,772	(174,820)	-3%
Inland Empire	0	0	0	0	0	0%
Las Virgenes	7,159,725	1,999,727	4,394,757	6,394,483	(765,241)	-11%
Long Beach	10,950,676	3,996,727	6,721,705	10,718,432	(232,244)	-2%
Los Angeles	32,299,550	7,773,525	19,825,995	27,599,520	(4,700,030)	-15%
MWDOC	53,522,042	21,978,241	32,852,710	54,830,952	1,308,910	2%
Pasadena	6,959,936	1,899,477	4,272,123	6,171,601	(788,335)	-11%
San Diego CWA	34,440,783	21,954,763	21,140,320	43,095,083	8,654,299	25%
San Fernando	18,502	27,047	11,357	38,404	19,901	108%
San Marino	476,901	90,922	292,730	383,652	(93,249)	-20%
Santa Ana	3,116,883	1,379,323	1,913,194	3,292,518	175,635	6%
Santa Monica	1,777,998	1,103,136	1,091,364	2,194,500	416,502	23%
Three Valleys	14,947,472	4,386,930	9,175,005	13,561,934	(1,385,538)	-9%
Torrance	5,185,916	1,839,211	3,183,200	5,022,411	(163,504)	-3%
Upper San Gabriel	1,051,768	1,219,888	645,593	1,865,480	813,712	77%
West Basin	36,436,440	12,705,079	22,365,286	35,070,366	(1,366,074)	-4%
Western MWD	17,091,478	5,883,360	10,491,031	16,374,390	(717,088)	-4%
TOTAL	\$310,084,182	\$119,749,406	\$190,334,776	\$310,084,182	\$0	0%

Summary

- Recommended Fixed-Minimum and Volume Method
 - Acknowledge treatment cost of service to serve Member Agencies - Standby and Demand-related costs
 - Reflect shift in MWD's role from a 100% baseload to a combination of baseload/standby demand
 - Extend current Readiness-to-Serve Concept to treatment
 - Enhance treatment and total system fixed revenue recovery to the benefit of Member Agencies



Finance and Insurance Committee Meeting

Consideration of Alternative Treatment Cost Recovery Mechanism

February 23, 2016

Objectives-Goals

- Objective – Fixed Charge Concept
 - Cost of Service
 - Align charges with service commitment/investment
 - Cost recovery – revenue stability



Treatment Fixed Charge Concept

- 38% of total Treatment revenue requirements
 - Cost of Service based: sum of Treatment Demand and Standby costs
 - Used to develop fixed or demand charge

Fixed Cost Recovery - An Industry Perspective

- Cost-of-service considerations – What is the cost of providing on-demand service and standby service;?
- Declining water use driving trend to increase fixed cost recovery – fixed revenues

Align Charges with Service Commitment/Investment

- MWD is the treated water service provider for Member Agencies
- MWD service obligation – be capable of meeting average and peak week treated water demands of Member Agencies
- Investment in treatment capacity designed to meet the needs of Member Agencies
- Meet average and peak week demands AND provide on-demand and standby capacity



Treatment Fixed Charge Concept (\$ millions)

FY 2016/17 Treatment Revenue Requirement	
Direct O&M at WTPs	\$59
Indirect O&M (WSO, IT, Eng., HR)	46
A&G (Legal, Finance, Audit, Ethics)	30
Capital Costs (Debt, PAYGO) 54% of Total	140
LESS: Revenue Offsets / Decline in Reserves	<u>-18</u>
TOTAL Net Revenue Requirement	\$257



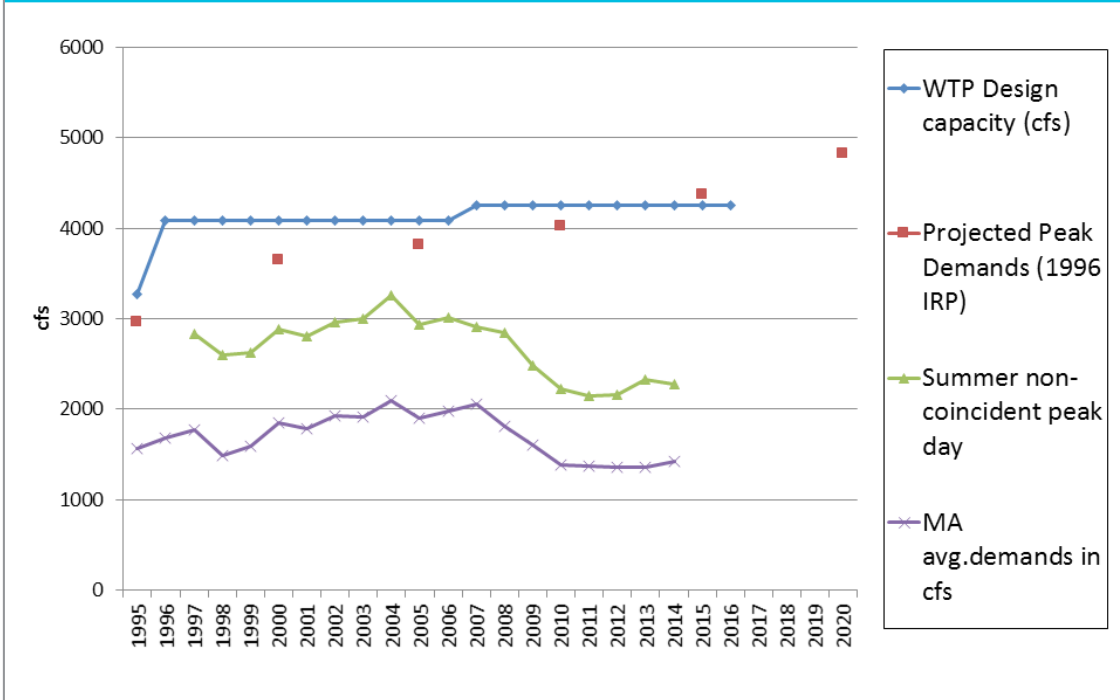
Treatment Fixed Charge Concept (\$ millions)

FY 2016/17 Treatment Revenue Requirement		\$257 (100%)
Variable		\$24 (9%)
Fixed		\$233 (91%)
Commodity	\$135	
Demand	\$41	38% of Total
Standby	\$57	

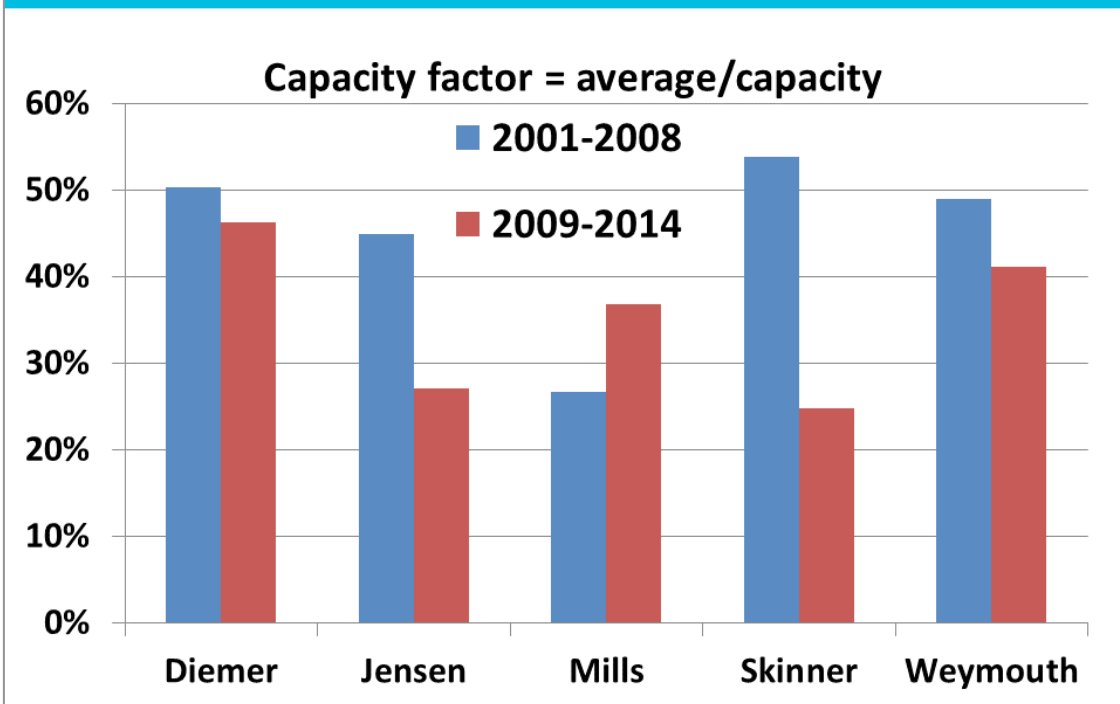
Current Treatment Surcharge: 100% Volumetric Cost Recovery

- $$\frac{\text{Revenue Requirement}}{\text{Treated Water Sales}} = \$/AF \text{ Volumetric Rate}$$
 - Demand and Standby treatment capacity and reduced treated water sales revenue
 - Potential for Member Agencies to stop using the MWD treatment system and make no contribution to Demand and Standby-related costs
 - MWD retains the obligation to serve Member Agencies

Long-Term Treated Water Demand Has Not Materialized



WTP Utilization Has Declined



Align Charges with Service Commitment/Investment

Cost of Service principles, i.e., pay for the service provided:

Member Agencies pay only when taking treated water and in effect require all system users to bear the cost burden for demand or standby capacity

MWD has invested in treatment capacity to serve the Member Agencies, but today does not require the beneficiaries of demand or standby capacity to pay anything for the cost of this dedicated capacity; for the cost of this service



11



Fixed Cost Recovery Cost-of-Service Perspective

- Demand or standby service – “...rate charged should reflect the cost of having capacity reserved and available for the customer.”(1)
 - Fixed Demand Charge – reflect peaking costs and demands
 - Consumption Rate

(1) AWWA M1 Principles of Water Rates, Fees, and Charges, Sixth Edition



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Fixed Revenue Recovery is Common

Agency	Wholesale Cost Recovery
Massachusetts Water Resource Authority, MA	Customers are assessed a <u>fixed annual amount based on their proportional share of the previous year's demand</u> . FY 2015 assessment = \$3,239 per million gallons. Fixed revenue recovery = 100%.
North Texas Municipal Water District, TX	Customers pay on a volumetric basis. Fixed costs are recovered under <u>take-or-pay contracts based on the higher of estimated test-year demand or the maximum volume of water used in any previous year</u> . FY 2016 fixed charge = \$1.88 per kgal. Estimated fixed revenue recovery = 85%.
Upper Trinity Regional Water District, TX	Customers pay their proportionate share of demand costs under <u>take-or-pay contracts based on a minimum daily volume equal to 18% of their highest peak day demand in the preceding five-year period</u> . FY 2015 annual demand charge = \$388,110 per MGD. Estimated fixed revenue recovery under minimum take-or-pay contracts = 78%.
San Francisco Public Utilities Commission, CA	4 wholesale customers are subject to a <u>take-or-pay requirement specifying a minimum annual volume</u> they must purchase. Estimated fixed revenue recovery from wholesale customers under minimum take-of-pay contracts = 24%.

Fixed Revenue Recovery is Common

Agency	Wholesale Cost Recovery
Great Lakes Water Authority, MI	<u>60% of the annual revenue requirement is estimated to be recovered through a fixed demand charge</u> ; 40% recovered through volumetric rates.
Jordon Valley Water Conservancy District, UT	Each wholesale customer has a <u>contracted take-or-pay minimum purchase volume</u> . Estimated fixed revenue recovery from wholesale customers under minimum take-or-pay contracts = 100%.
Dallas Water Utilities, TX	Wholesale customers pay a <u>fixed demand charge</u> and a volumetric rate. The demand charge is based on the higher of current year demand or the average of the previous five years. Demand charge is \$243,453 per mgd per year and the volumetric rate is \$0.4305 per kgal. Estimated fixed charge revenue from wholesale customers = 60%.
Portland Water Bureau, OR	Wholesale customers specify a <u>minimum annual "guaranteed purchase quantity"</u> as well as seasonal and daily peaking factor. If actual peaking factors exceed those specified, customers must pay a surcharge. Fixed revenue recovery from wholesale customers under minimum take-of-pay contracts = 100%

Current Treatment Surcharge: 100% Volumetric Cost Recovery

- $$\frac{\text{Revenue Requirement}}{\text{Treated Water Sales}} = \$/AF \text{ Volumetric Rate}$$
 - Demand and Standby treatment capacity and reduced treated water sales revenue
 - Potential for Member Agencies to stop using the MWD treatment system and make no contribution to Demand and Standby-related costs
 - MWD retains the obligation to serve Member Agencies



FY 2016/17 Treatment Revenue Requirement (Hypothetical Pro Forma – For Example Only)

Status Quo Treated Surcharge (\$/AF)	
Treatment Revenue Requirement	\$257,479,354
Forecasted Treated Water Sales (AF)	<u>822,000</u>
Treated Surcharge (\$/AF)	\$313



FY 2016/17 Status Quo Treatment Surcharge (100% Volumetric) (HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	Projected Test Year AF	Treated Water Sales %	x	Total Revenue Requirement	=	Member Agency Revenue Requirement
Anaheim	3,947	0.48%	x	\$257,479,354	=	\$1,236,208
Beverly Hills	10,212	1.24%	x	257,479,354	=	3,198,735
Burbank	6,354	0.77%	x	257,479,354	=	1,990,241
Calleguas	88,943	10.82%	x	257,479,354	=	27,860,023
Central Basin	27,937	3.40%	x	257,479,354	=	8,750,956
Compton	0	0.00%	x	257,479,354	=	87
Eastern	53,248	6.48%	x	257,479,354	=	16,679,159
Foothill	7,461	0.91%	x	257,479,354	=	2,337,078
Fullerton	7,639	0.93%	x	257,479,354	=	2,392,937
Glendale	15,693	1.91%	x	257,479,354	=	4,915,618
Inland Empire	0	0.00%	x	257,479,354	=	0
Las Virgenes	20,314	2.47%	x	257,479,354	=	6,362,979
Long Beach	42,391	5.16%	x	257,479,354	=	13,278,470
Los Angeles	61,097	7.43%	x	257,479,354	=	19,137,588
MWDOC	141,285	17.19%	x	257,479,354	=	44,255,500
Pasadena	17,238	2.10%	x	257,479,354	=	5,399,667
San Diego CWA	97,266	11.83%	x	257,479,354	=	30,467,286
San Fernando	92	0.01%	x	257,479,354	=	28,723
San Marino	673	0.08%	x	257,479,354	=	210,923
Santa Ana	4,929	0.60%	x	257,479,354	=	1,543,796
Santa Monica	3,920	0.48%	x	257,479,354	=	1,227,816
Three Valleys	36,641	4.46%	x	257,479,354	=	11,477,206
Torrance	14,919	1.81%	x	257,479,354	=	4,673,233
Upper San Gabriel	8,350	1.02%	x	257,479,354	=	2,615,453
West Basin	103,936	12.64%	x	257,479,354	=	32,556,355
Western MWD	47,515	5.78%	x	\$257,479,354	=	14,883,317
TOTAL	822,000	100.00%				\$257,479,354
				Unit Cost per AF		\$313

Proposed Treatment Rate Design: Volumetric + Fixed Revenue Recovery

- Volumetric Revenue Recovery = 62%

$$\frac{\text{Revenue Requirement}}{\text{Treated Water Sales}} = \$/\text{AF Volumetric Rate}$$

- Fixed Revenue Recovery = 38%

$$\text{Revenue Requirement} * \text{Proportional Demand} = \$ \text{Annual Fixed Charge}$$

Proposed Treatment Rate Design: Volumetric + Fixed Revenue Recovery

2-Part Test for Minimum Demand

Greater of:

1. TYRA of Treated Water Sales OR
2. Average of 1998 – 2007 Treated Water Sales

2007 was the last significant treatment
plant capacity addition



FY 2016/17 Treatment Revenue Requirement

Hypothetical Pro Forma
For Example Only

Status Quo Treatment Surcharge (\$/AF)	
Total Treatment Revenue Requirement	\$257,479,354
Forecast Treated Water Sales (AF)	<u>822,000</u>
Treated Surcharge (\$/AF)	\$313
Treatment Fixed Annual Charge (\$/AF)	
Fixed Demand	\$40,822,844
Fixed Standby	56,724,561
Total Fixed Charge Revenue Requirement	\$97,547,405
% of Total Revenue Requirement	37.9%
Fixed Charge Units of Service (AF)	<u>1,341,701</u>
Annual Fixed Charge (\$/AF)	\$73
Treatment Volumetric Rate (\$/AF)	
Net Remaining Revenue Requirement	\$159,931,949
% of Total Revenue Requirement	62.1%
Forecast Treated Water Sales (AF)	<u>822,000</u>
Volumetric Rate (\$/AF)	\$195



FY 2016/2017 Member Agency Fixed Charge Revenue Requirement (38% Revenue Recovery)						
(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	AVG. 1998 - 2007 Treated Water Sales (AF)	TYRA 2006 - 2015 Treated Water Sales (AF)	Units Used in Fixed Charge Calculation	% of Total	x	Total Fixed Charge Revenue Requirement = Member Agency Annual Fixed Revenue Requirement
Anaheim	13,134	12,126	13,134	0.98%	X	\$97,547,405 = \$954,911
Beverly Hills	13,008	11,386	13,008	0.97%	x	97,547,405 = 945,725
Burbank	12,816	10,089	12,816	0.96%	x	97,547,405 = 931,758
Calleguas	112,585	114,712	114,712	8.55%	x	97,547,405 = 8,340,091
Central Basin	67,191	46,198	67,191	5.01%	x	97,547,405 = 4,885,071
Compton	3,514	1,924	3,514	0.26%	x	97,547,405 = 255,451
Eastern	73,423	73,323	73,423	5.47%	x	97,547,405 = 5,338,173
Foothill	11,623	9,933	11,623	0.87%	x	97,547,405 = 845,074
Fullerton	11,513	11,072	11,513	0.86%	x	97,547,405 = 837,031
Glendale	25,094	19,585	25,094	1.87%	x	97,547,405 = 1,824,421
Inland Empire	0	0	0	0.00%	x	97,547,405 = 0
Las Virgenes	22,106	22,810	22,810	1.70%	x	97,547,405 = 1,658,376
Long Beach	44,267	36,397	44,267	3.30%	x	97,547,405 = 3,218,416
Los Angeles	79,762	87,950	87,950	6.56%	x	97,547,405 = 6,394,377
MWDOC	244,203	204,975	244,203	18.20%	x	97,547,405 = 17,754,580
Pasadena	21,779	21,181	21,779	1.62%	x	97,547,405 = 1,583,398
San Diego CWA	251,381	156,458	251,381	18.74%	x	97,547,405 = 18,276,450
San Fernando	387	206	387	0.03%	x	97,547,405 = 28,135
San Marino	1,041	931	1,041	0.08%	x	97,547,405 = 75,664
Santa Ana	15,788	13,331	15,788	1.18%	x	97,547,405 = 1,147,853
Santa Monica	12,627	9,252	12,627	0.94%	x	97,547,405 = 918,014
Three Valleys	49,467	41,833	49,467	3.69%	x	97,547,405 = 3,596,498
Torrance	21,052	18,130	21,052	1.57%	x	97,547,405 = 1,530,565
Upper San Gabriel	13,963	7,346	13,963	1.04%	x	97,547,405 = 1,015,173
West Basin	145,421	125,668	145,421	10.84%	x	97,547,405 = 10,572,734
Western MWD	61,511	63,538	63,538	4.74%	x	97,547,405 = 4,619,464
TOTAL	1,328,654	1,120,354	1,341,701	100.00%		\$97,547,405
Annual Fixed Charge (\$/AF)						\$73

FY 2016/2017 Member Agency Volumetric Revenue Requirement (62% Volumetric)						
(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	Projected Test-Year Treated Water Sales		x	Total Revenue Requirement =	Member Agency Revenue Requirement	
	AF	%				
Anaheim	3,947	0.48%	X	\$159,931,949 =		\$767,864
Beverly Hills	10,212	1.24%	x	159,931,949 =		1,986,877
Burbank	6,354	0.77%	x	159,931,949 =		1,236,228
Calleguas	88,943	10.82%	x	159,931,949 =		17,305,107
Central Basin	27,937	3.40%	x	159,931,949 =		5,435,611
Compton	0	0.00%	x	159,931,949 =		54
Eastern	53,248	6.48%	x	159,931,949 =		10,360,172
Foothill	7,461	0.91%	x	159,931,949 =		1,451,664
Fullerton	7,639	0.93%	x	159,931,949 =		1,486,361
Glendale	15,693	1.91%	x	159,931,949 =		3,053,310
Inland Empire	0	0.00%	x	159,931,949 =		0
Las Virgenes	20,314	2.47%	x	159,931,949 =		3,952,331
Long Beach	42,391	5.16%	x	159,931,949 =		8,247,852
Los Angeles	61,097	7.43%	x	159,931,949 =		11,887,212
MWDOC	141,285	17.19%	x	159,931,949 =		27,489,072
Pasadena	17,238	2.10%	x	159,931,949 =		3,353,975
San Diego CWA	97,266	11.83%	x	159,931,949 =		18,924,595
San Fernando	92	0.01%	x	159,931,949 =		17,841
San Marino	673	0.08%	x	159,931,949 =		131,014
Santa Ana	4,929	0.60%	x	159,931,949 =		958,921
Santa Monica	3,920	0.48%	x	159,931,949 =		762,651
Three Valleys	36,641	4.46%	x	159,931,949 =		7,129,006
Torrance	14,919	1.81%	x	159,931,949 =		2,902,754
Upper San Gabriel	8,350	1.02%	x	159,931,949 =		1,624,575
West Basin	103,936	12.64%	x	159,931,949 =		20,222,209
Western MWD	47,515	5.78%	x	\$159,931,949 =		9,244,694
TOTAL	822,000	100.00%				\$159,931,949
Volumetric \$/AF						\$195

Summary of FY 2016/2017 Member Agency Treatment Revenue Requirement Impacts (HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)						
Member Agency	Status Quo Treated Water Surcharge	Proposed Rate Design				
		Fixed Charge Revenue Requirement	Volumetric Revenue Requirement	Total Revenue Requirement	\$ Difference From Status Quo	% Difference From Status Quo
Anaheim	\$1,236,208	\$954,911	\$767,864	\$1,722,775	\$486,567	39%
Beverly Hills	3,198,735	945,725	1,986,877	2,932,602	(266,132)	-8%
Burbank	1,990,241	931,758	1,236,228	2,167,985	177,745	9%
Calleguas	27,860,023	8,340,091	17,305,107	25,645,198	(2,214,825)	-8%
Central Basin	8,750,956	4,885,071	5,435,611	10,320,681	1,569,725	18%
Compton	87	255,451	54	255,505	255,418	> 100%
Eastern	16,679,159	5,338,173	10,360,172	15,698,345	(980,813)	-6%
Foothill	2,337,078	845,074	1,451,664	2,296,738	(40,340)	-2%
Fullerton	2,392,937	837,031	1,486,361	2,323,392	(69,545)	-3%
Glendale	4,915,618	1,824,421	3,053,310	4,877,732	(37,886)	-1%
Inland Empire	0	0	0	0	0	0%
Las Virgenes	6,362,979	1,658,376	3,952,331	5,610,707	(752,272)	-12%
Long Beach	13,278,470	3,218,416	8,247,852	11,466,268	(1,812,202)	-14%
Los Angeles	19,137,588	6,394,377	11,887,212	18,281,589	(855,999)	-4%
MWDOC	44,255,500	17,754,580	27,489,072	45,243,652	988,152	2%
Pasadena	5,399,667	1,583,398	3,353,975	4,937,373	(462,295)	-9%
San Diego CWA	30,467,286	18,276,450	18,924,595	37,201,045	6,733,759	22%
San Fernando	28,723	28,135	17,841	45,976	17,253	60%
San Marino	210,923	75,664	131,014	206,678	(4,245)	-2%
Santa Ana	1,543,796	1,147,853	958,921	2,106,774	562,978	36%
Santa Monica	1,227,816	918,014	762,651	1,680,665	452,849	37%
Three Valleys	11,477,206	3,596,498	7,129,006	10,725,505	(751,701)	-7%
Torrance	4,673,233	1,530,565	2,902,754	4,433,319	(239,914)	-5%
Upper San Gabriel	2,615,453	1,015,173	1,624,575	2,639,748	24,295	1%
West Basin	32,556,355	10,572,734	20,222,209	30,794,944	(1,761,412)	-5%
Western MWD	14,883,317	4,619,464	9,244,694	13,864,158	(1,019,159)	-7%
TOTAL	\$257,479,354	\$97,547,405	\$159,931,949	\$257,479,354	\$0	0%

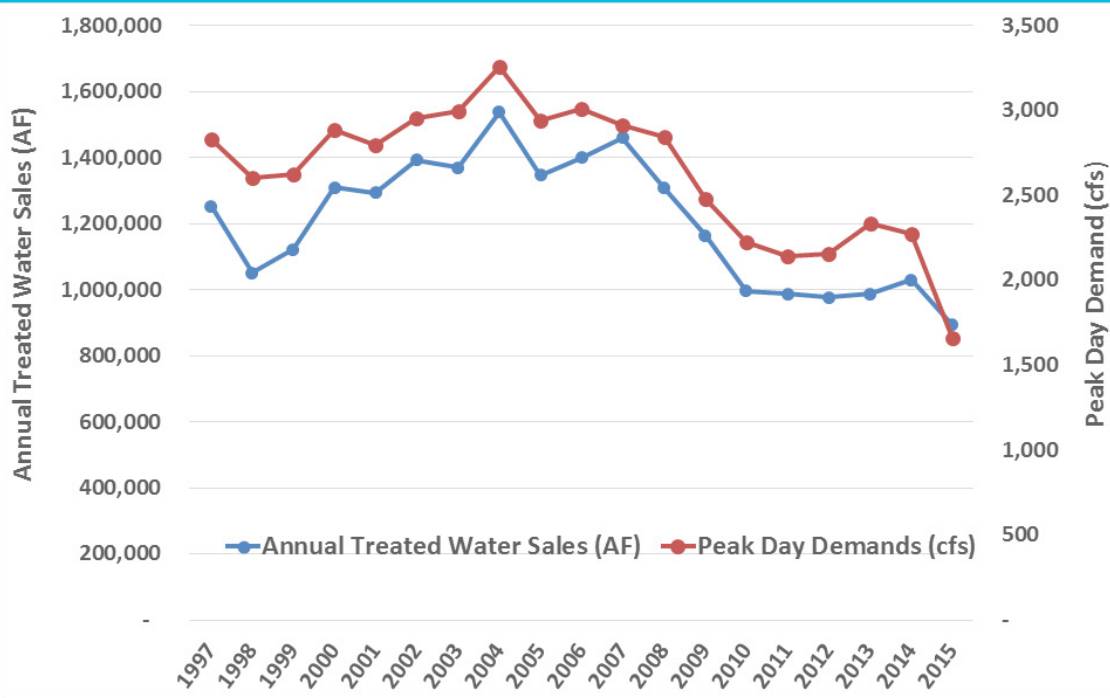
Proposed Treatment Rate Design: Volumetric + Fixed Revenue Recovery

2-Part Test for Minimum Demand

Questions – Concerns from 1-15-16 Manager’s Meeting:

1. How are peak demands captured?
2. Minimum forever?

Correlation Between Annual Treated Sales and Treated Peak Day Demands = .95



Revenue Requirement Impacts of Peaking Factors in the Minimum Charge				
Member Agency	Minimum: > of 1998-2007 OR 2006 - 2015 TYRA	Minimum: > of 1998 - 2007 OR 2006 - 2015 TYRA AND 2013 - 2015 Peaking	\$ Difference	% Difference
Anaheim	\$1,722,775	\$1,880,003	\$157,228	9%
Beverly Hills	2,932,602	3,056,005	123,402	4%
Burbank	2,167,985	2,158,712	(9,274)	0%
Calleguas	25,645,198	26,269,066	623,868	2%
Central Basin	10,320,681	9,515,216	(805,465)	-8%
Compton	255,505	197,671	(57,833)	-23%
Eastern	15,698,345	16,869,107	1,170,761	7%
Foothill	2,296,738	2,278,411	(18,326)	-1%
Fullerton	2,323,392	2,346,647	23,255	1%
Glendale	4,877,732	4,869,738	(7,994)	0%
Inland Empire	0	0	0	---
Las Virgenes	5,610,707	5,799,214	188,506	3%
Long Beach	11,466,268	11,260,314	(205,954)	-2%
Los Angeles	18,281,589	19,169,363	887,774	5%
MWDOC	45,243,652	44,086,858	(1,156,794)	-3%
Pasadena	4,937,373	5,159,315	221,942	4%
San Diego CWA	37,201,045	35,379,254	(1,821,791)	-5%
San Fernando	45,976	116,636	70,660	154%
San Marino	206,678	297,300	90,623	44%
Santa Ana	2,106,774	1,956,865	(149,909)	-7%
Santa Monica	1,680,665	1,678,702	(1,963)	0%
Three Valleys	10,725,505	11,372,852	647,347	6%
Torrance	4,433,319	4,367,355	(65,964)	-1%
Upper San Gabriel	2,639,748	2,569,783	(69,965)	-3%
West Basin	30,794,944	30,246,079	(548,865)	-2%
Western MWD	13,864,158	14,578,887	714,729	5%
TOTAL	\$257,479,354	\$257,479,354	\$0	0%

FY 2016/2017 Member Agency Revenue Requirement Impacts (HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)					
Member Agency	Status Quo Treated Water Surcharge	Option #1	Option #2	Dollar Difference from Status Quo	
		Minimum: > of 1998- 2007 OR 2006-2015 TYRA	Minimum > of 1998-2007 OR 2006-2015 TYRA AND 2013-2015 PEAKING	Option #1	Option #2
Anaheim	\$1,236,208	\$1,722,775	\$1,880,003	\$486,567	\$643,795
Beverly Hills	3,198,735	2,932,602	3,056,005	(266,132)	(142,730)
Burbank	1,990,241	2,167,985	2,158,712	177,745	168,471
Calleguas	27,860,023	25,645,198	26,269,066	(2,214,825)	(1,590,957)
Central Basin	8,750,956	10,320,681	9,515,216	1,569,725	764,260
Compton	87	255,505	197,671	255,418	197,585
Eastern	16,679,159	15,698,345	16,869,107	(980,813)	189,948
Foothill	2,337,078	2,296,738	2,278,411	(40,340)	(58,666)
Fullerton	2,392,937	2,323,392	2,346,647	(69,545)	(46,290)
Glendale	4,915,618	4,877,732	4,869,738	(37,886)	(45,880)
Inland Empire	0	0	0	0	0
Las Virgenes	6,362,979	5,610,707	5,799,214	(752,272)	(563,765)
Long Beach	13,278,470	11,466,268	11,260,314	(1,812,202)	(2,018,156)
Los Angeles	19,137,588	18,281,589	19,169,363	(855,999)	31,776
MWDOC	44,255,500	45,243,652	44,086,858	988,152	(168,642)
Pasadena	5,399,667	4,937,373	5,159,315	(462,295)	(240,353)
San Diego CWA	30,467,286	37,201,045	35,379,254	6,733,759	4,911,968
San Fernando	28,723	45,976	116,636	17,253	87,913
San Marino	210,923	206,678	297,300	(4,245)	86,378
Santa Ana	1,543,796	2,106,774	1,956,865	562,978	413,069
Santa Monica	1,227,816	1,680,665	1,678,702	452,849	450,887
Three Valleys	11,477,206	10,725,505	11,372,852	(751,701)	(104,354)
Torrance	4,673,233	4,433,319	4,367,355	(239,914)	(305,878)
Upper San Gabriel	2,615,453	2,639,748	2,569,783	24,295	(45,670)
West Basin	32,556,355	30,794,944	30,246,079	(1,761,412)	(2,310,277)
Western MWD	14,883,317	13,864,158	14,578,887	(1,019,159)	(304,430)
Total	\$257,479,354	\$257,479,354	\$257,479,354	\$0	\$0

Minimum Forever?

- Under Status Quo and All Approaches, service levels should be re-defined in conjunction with treatment plant capacity decisions

Recommended Approach

- Volume Rate and Fixed Charge Based on a Minimum
 - Appropriate assignment of demand and standby capacity costs
- Peaking Could be Considered as Part of the Fixed Charge Determination

Status Quo

- Maintain Current 100% Volumetric Treatment Cost Recovery

Summary

- Recommended Fixed-Minimum and Volume Method
 - Acknowledge treatment cost of service – Demand and Standby-related costs
 - Enhance treatment and total system fixed revenue recovery



Finance and Insurance Committee Meeting

Consideration of Alternative Treatment Cost Recovery Mechanism

March 7, 2016

Objectives-Goals

- Objective – Fixed Charge Concept
 - Cost of Service
 - Align charges with service commitment/investment
 - Cost recovery – revenue stability



Proposed Treatment Rate Design: Volumetric + Fixed Revenue Recovery

Requests for other options:

1. Consider Option with 10-Year Rolling Average (TYRA) without minimum
2. Consider Option with 20-Year Rolling Average without minimum



FY 2016/2017 Member Agency Revenue Requirement Impacts (HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)				
Member Agency	Status Quo Treated Water Surcharge	Option #1 (Recommended)	Option #2	Option #3
		Minimum: 1998-2007 or 2006-2015 TYRA	10-Year Rolling Average (NO PEAKING AND NO MINIMUM)	20-Year Rolling Average (NO PEAKING AND NO MINIMUM)
Anaheim	\$1,236,208	\$1,722,775	\$2,786,746	\$2,495,432
Beverly Hills	3,198,735	2,932,602	2,616,652	2,629,901
Burbank	1,990,241	2,167,985	2,318,683	2,448,567
Calleguas	27,860,023	25,645,198	26,363,194	23,767,709
Central Basin	8,750,956	10,320,681	10,617,247	12,437,723
Compton	87	255,505	442,249	585,364
Eastern	16,679,159	15,698,345	16,851,081	14,829,949
Foothill	2,337,078	2,296,738	2,282,696	2,274,101
Fullerton	2,392,937	2,323,392	2,544,479	2,210,902
Glendale	4,915,618	4,877,732	4,501,063	4,879,318
Inland Empire	0	0	0	0
Las Virgenes	6,362,979	5,610,707	5,242,161	4,725,845
Long Beach	13,278,470	11,466,268	8,364,652	8,803,533
Los Angeles	19,137,588	18,281,589	20,212,754	17,529,276
MWDOC	44,255,500	45,243,652	47,107,360	47,182,284
Pasadena	5,399,667	4,937,373	4,867,711	4,461,015
San Diego CWA	30,467,286	37,201,045	35,957,147	42,941,871
San Fernando	28,723	45,976	47,357	52,031
San Marino	210,923	206,678	213,919	211,602
Santa Ana	1,543,796	2,106,774	3,063,695	2,946,052
Santa Monica	1,227,816	1,680,665	2,126,389	2,241,734
Three Valleys	11,477,206	10,725,505	9,614,021	9,755,570
Torrance	4,673,233	4,433,319	4,166,662	4,227,608
Upper San Gabriel	2,615,453	2,639,748	1,688,265	2,149,456
West Basin	32,556,355	30,794,944	28,880,956	29,031,907
Western MWD	14,883,317	13,864,158	14,602,217	12,660,604
Total	\$257,479,354	\$257,479,354	\$257,479,354	\$257,479,354

Recommended Approach

- Volume Rate and Fixed Charge Based on a Minimum
- Appropriate assignment of demand and standby capacity costs

Status Quo

- Maintain Current 100% Volumetric Treatment Cost Recovery

Summary

- Recommended Fixed-Minimum and Volume Method
- Option – 10-Year Rolling Average
- Option – 20-Year Rolling Average

ATTACHMENT B:
**OTHER TREATMENT
SURCHARGE RATE DESIGN
OPTIONS ANALYZED BY RFC**



FY 2016/2017 Member Agency Revenue Requirement Impacts

(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)

Member Agency	Status Quo Treated Water Surcharge	Option #1	Option #2	Dollar Difference from Status Quo	
		Minimum: > of 1998-2007 OR 2006-2015 TYRA	Minimum > of 1998-2007 OR 2006-2015 TYRA AND 2013-2015 PEAKING	Option #1	Option #2
Anaheim	\$1,236,208	\$1,722,775	\$1,880,003	\$486,567	\$643,795
Beverly Hills	3,198,735	2,932,602	3,056,005	(266,132)	(142,730)
Burbank	1,990,241	2,167,985	2,158,712	177,745	168,471
Calleguas	27,860,023	25,645,198	26,269,066	(2,214,825)	(1,590,957)
Central Basin	8,750,956	10,320,681	9,515,216	1,569,725	764,260
Compton	87	255,505	197,671	255,418	197,585
Eastern	16,679,159	15,698,345	16,869,107	(980,813)	189,948
Foothill	2,337,078	2,296,738	2,278,411	(40,340)	(58,666)
Fullerton	2,392,937	2,323,392	2,346,647	(69,545)	(46,290)
Glendale	4,915,618	4,877,732	4,869,738	(37,886)	(45,880)
Inland Empire	0	0	0	0	0
Las Virgenes	6,362,979	5,610,707	5,799,214	(752,272)	(563,765)
Long Beach	13,278,470	11,466,268	11,260,314	(1,812,202)	(2,018,156)
Los Angeles	19,137,588	18,281,589	19,169,363	(855,999)	31,776
MWDOC	44,255,500	45,243,652	44,086,858	988,152	(168,642)
Pasadena	5,399,667	4,937,373	5,159,315	(462,295)	(240,353)
San Diego CWA	30,467,286	37,201,045	35,379,254	6,733,759	4,911,968
San Fernando	28,723	45,976	116,636	17,253	87,913
San Marino	210,923	206,678	297,300	(4,245)	86,378
Santa Ana	1,543,796	2,106,774	1,956,865	562,978	413,069
Santa Monica	1,227,816	1,680,665	1,678,702	452,849	450,887
Three Valleys	11,477,206	10,725,505	11,372,852	(751,701)	(104,354)
Torrance	4,673,233	4,433,319	4,367,355	(239,914)	(305,878)
Upper San Gabriel	2,615,453	2,639,748	2,569,783	24,295	(45,670)
West Basin	32,556,355	30,794,944	30,246,079	(1,761,412)	(2,310,277)
Western Metropolitan	14,883,317	13,864,158	14,578,887	(1,019,159)	(304,430)
TOTAL	\$257,479,354	\$257,479,354	\$257,479,354	\$0	\$0

FY 2016/2017 Member Agency Revenue Requirement Impacts

(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)

Member Agency	Status Quo Treated Water Surcharge	Option #1 (Recommended) Minimum: > of 1998-2007 OR 2006-2015 TYRA	Option #2 10-Year Rolling Average (NO PEAKING AND NO MINIMUM)	Option #3 20-Year Rolling Average (NO PEAKING AND NO MINIMUM)
Anaheim	\$1,236,208	\$1,722,775	\$2,786,746	\$2,495,432
Beverly Hills	3,198,735	2,932,602	2,616,652	2,629,901
Burbank	1,990,241	2,167,985	2,318,683	2,448,567
Calleguas	27,860,023	25,645,198	26,363,194	23,767,709
Central Basin	8,750,956	10,320,681	10,617,247	12,437,723
Compton	87	255,505	442,249	585,364
Eastern	16,679,159	15,698,345	16,851,081	14,829,949
Foothill	2,337,078	2,296,738	2,282,696	2,274,101
Fullerton	2,392,937	2,323,392	2,544,479	2,210,902
Glendale	4,915,618	4,877,732	4,501,063	4,879,318
Inland Empire	0	0	0	0
Las Virgenes	6,362,979	5,610,707	5,242,161	4,725,845
Long Beach	13,278,470	11,466,268	8,364,652	8,803,533
Los Angeles	19,137,588	18,281,589	20,212,754	17,529,276
MWDOC	44,255,500	45,243,652	47,107,360	47,182,284
Pasadena	5,399,667	4,937,373	4,867,711	4,461,015
San Diego CWA	30,467,286	37,201,045	35,957,147	42,941,871
San Fernando	28,723	45,976	47,357	52,031
San Marino	210,923	206,678	213,919	211,602
Santa Ana	1,543,796	2,106,774	3,063,695	2,946,052
Santa Monica	1,227,816	1,680,665	2,126,389	2,241,734
Three Valleys	11,477,206	10,725,505	9,614,021	9,755,570
Torrance	4,673,233	4,433,319	4,166,662	4,227,608
Upper San Gabriel	2,615,453	2,639,748	1,688,265	2,149,456
West Basin	32,556,355	30,794,944	28,880,956	29,031,907
Western MWD	14,883,317	13,864,158	14,602,217	12,660,604
Total	\$257,479,354	\$257,479,354	\$257,479,354	\$257,479,354