



# 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 <u>AND</u> 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>			
<b>TOTAL Net Revenue Requirement</b>	\$257			



#### Treatment Fixed Charge Concept (\$ millions)

FY 2016/17 Treatr Revenue Requirer	<b>\$257 (100%)</b>		
Variable		\$24 (9%	6)
Fixed		<b>\$233 (</b> 91%	6)
Commodity	\$135		
Demand	\$41	38% of	
Standby	\$57	Total	



### **Current Treatment Surcharge:** 100% Volumetric Cost Recovery

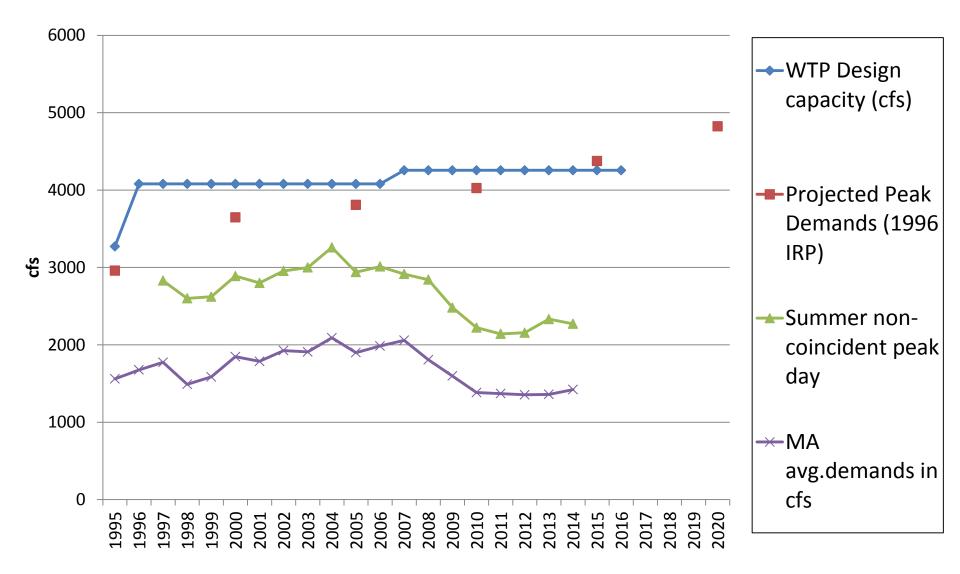
Revenue Requirement Treated Water Sales = \$/AF Volumetric Rate

- 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

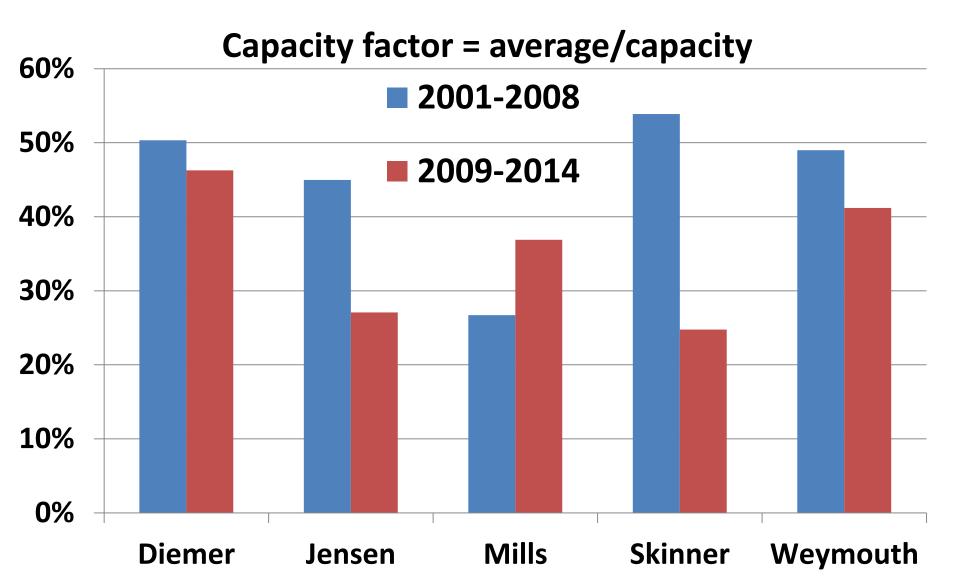
MWD retains the obligation to serve Member Agencies



#### 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



#### 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



#### **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</u> <u>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</u> <u>contracts based on a minimum daily volume equal to 18% of their highest</u> <u>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</u> <u>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	60% of the annual revenue requirement is estimated to be recovered through a fixed demand charge; 40% recovered through volumetric rates.
Jordon Valley Water Conservancy District, UT	Each wholesale customer has a <u>contracted take-or-pay minimum purchase</u> <u>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</u> <u>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

Revenue Requirement Treated Water Sales = \$/AF 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)

	Total Revenue		Member Agency			
Member Agency	AF	t Year Treated Water Sales %	X	Requirement	=	Revenue Requirement
Anaheim	3,947	0.48%	х	\$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%	х	257,479,354	=	16,679,159
Foothill	7,461	0.91%	х	257,479,354	=	2,337,078
Fullerton	7,639	0.93%	х	257,479,354	=	2,392,937
Glendale	15,693	1.91%	х	257,479,354	=	4,915,618
Inland Empire	0	0.00%	х	257,479,354	=	0
Las Virgenes	20,314	2.47%	х	257,479,354	=	6,362,979
Long Beach	42,391	5.16%	х	257,479,354	=	13,278,470
Los Angeles	61,097	7.43%	х	257,479,354	=	19,137,588
MWDOC	141,285	17.19%	x	257,479,354	=	44,255,500
Pasadena	17,238	2.10%	х	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%	х	257,479,354	=	28,723
San Marino	673	0.08%	х	257,479,354	=	210,923
Santa Ana	4,929	0.60%	х	257,479,354	=	1,543,796
Santa Monica	3,920	0.48%	х	257,479,354	=	1,227,816
Three Valleys	36,641	4.46%	х	257,479,354	=	11,477,206
Torrance	14,919	1.81%	х	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 p	er AF	\$313

#### Proposed Treatment Rate Design: Volumetric + Fixed Revenue Recovery

• Volumetric Revenue Recovery = 62%

Revenue Requirement Treated Water Sales = \$/AF Volumetric Rate

Fixed Revenue Recovery = 38%
Revenue Requirement \* Proportional Demand
= \$ Annual Fixed Charge



### Proposed Treatment Rate Design: Volumetric + Fixed Revenue Recovery

#### 2-Part Test for Minimum Demand

#### <u>Greater of</u>:

- 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

Status Quo Treatment S	urcharge (\$/AF)
------------------------	------------------

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

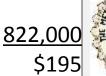
Treatment Fixed Annual Charge (\$/AF)					
Fixed Demand	\$40,822,844				
Fixed Standby	56,724,561				
Total Fixed Charge Revenue Requirement	\$97,547,405				
% of Total Revenue Requirement	37.9%				
Fixed Charge Units of Service (AF)	1,341,701				

Fixed Charge Units of Service (AF) Annual Fixed Charge (\$/AF)

#### Treatment Volumetric Rate (\$/AF)

Net Remaining Revenue Requirement % of Total Revenue Requirement

Forecast Treated Water Sales (AF) Volumetric Rate (\$/AF) \$159,931,949



62.1%

\$73



#### FY 2016/2017 Member Agency Fixed Charge Revenue Requirement (38% Revenue Recovery)

(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)

Monhor	AVG. 1998 - 2007 Treated Water	TYRA 2006 - 2015 Treated Water	Units Used in Fixed Charge		x	Total Fixed Charge Revenue	=	Member Agency Annual Fixed Revenue
Member Agency	Sales (AF)	Sales (AF)	Calculation	% of Total		Requirement		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
					Annu	al Fixed Charge (\$	S/AF	

#### FY 2016/2017 Member Agency Volumetric Revenue Requirement (62% Volumetric) (HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)

	Projected Test	-Year Treated Water S	Sales	<b>Total Revenue</b>	_ Member Agency		
Member Agency	AF	%	Х	Requirement	Revenue Requirement		
Anaheim	3,947	0.48%	Х	\$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%	х	159,931,949	= 54		
Eastern	53,248	6.48%	x	159,931,949	= 10,360,172		
Foothill	7,461	0.91%	х	159,931,949	= 1,451,664		
Fullerton	7,639	0.93%	Х	159,931,949	= 1,486,361		
Glendale	15,693	1.91%	Х	159,931,949	= 3,053,310		
Inland Empire	0	0.00%	Х	159,931,949	= C		
Las Virgenes	20,314	2.47%	Х	159,931,949	= 3,952,331		
Long Beach	42,391	5.16%	Х	159,931,949	= 8,247,852		
Los Angeles	61,097	7.43%	Х	159,931,949	= 11,887,212		
MWDOC	141,285	17.19%	Х	159,931,949	= 27,489,072		
Pasadena	17,238	2.10%	Х	159,931,949	= 3,353,975		
San Diego CWA	97,266	11.83%	Х	159,931,949	= 18,924,595		
San Fernando	92	0.01%	x	159,931,949	= 17,841		
San Marino	673	0.08%	х	159,931,949	= 131,014		
Santa Ana	4,929	0.60%	х	159,931,949	= 958,921		
Santa Monica	3,920	0.48%	Х	159,931,949	= 762,651		
Three Valleys	36,641	4.46%	Х	159,931,949	= 7,129,006		
Torrance	14,919	1.81%	Х	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 \$/AI	F \$195		

#### Summary of FY 2016/2017 Member Agency Treatment Revenue Requirement Impacts

(HYPOTHETICAL PRO FORMA - FOR EXAMPLE ONLY)

		Proposed Rate Design						
	Status Quo	Fixed Charge	Volumetric	Total	\$ Difference	% Difference		
	Treated Water	Revenue	Revenue	Revenue	From	From		
Member Agency	Surcharge	Requirement	Requirement	Requirement	Status Quo	Status Quo		
Anaheim	\$1,236,208	\$954,911	\$767 <i>,</i> 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

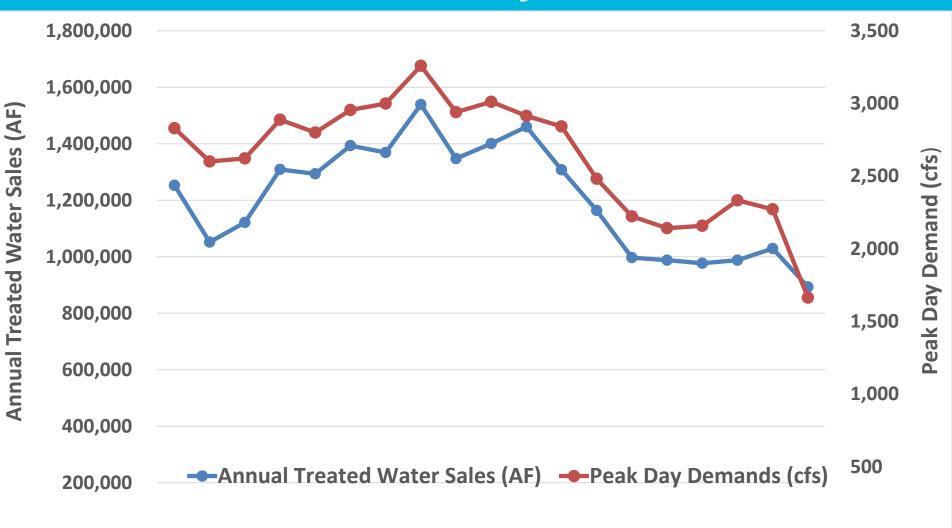
### 2-Part Test for Minimum Demand

### <u>Questions – Concerns from 1-15-16 Manager's</u> <u>Meeting</u>:

- 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								
	Minimum: > of 1998-2007	Minimum: > of 1998 - 2007 OR						
	OR	2006 - 2015 TYRA <u>AND</u>						
Member Agency	2006 - 2015 TYRA	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)

	-	Option #1 Option #2		Dollar Difference from Status Quo	
Member Agency	Status Quo Treated Water Surcharge		Minimum > of 1998-2007 OR 2006-2015 TYRA <u>AND</u> 2013-2015 PEAKING	Option #1	Option #2
Anaheim	\$1,236,208	\$1,722,775		\$486,567	\$643,795
Beverly Hills	3,198,735	2,932,602		(266,132)	(142,730
Burbank	1,990,241	2,167,985		177,745	
Calleguas	27,860,023	25,645,198		(2,214,825)	(1,590,957
Central Basin	8,750,956	10,320,681	9,515,216	1,569,725	
Compton	87	255,505		255,418	
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	(
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		452,849	
Three Valleys	11,477,206	10,725,505		(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		24,295	
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

