



**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

9-5

June 19, 1997

**To:** Board of Directors (Water Planning and Resources Committee--Information)  
(Budget and Finance Committee--Information)

**From:** General Manager

**Submitted by:** Debra C. Man, Chief  
Planning and Resources

**Submitted by:** Lambertus H. Becker, Chief  
Financial Officer

**Subject:** Ten-Year Forecast of Water Rates

*[Handwritten signature: Rhodessa]*  
*[Handwritten signature: Brian A. Thomas for]*  
*[Handwritten signature: Stephen T. Ferguson for]*

---

## RECOMMENDATION

---

For information only.

---

## EXECUTIVE SUMMARY

---

As part of Metropolitan's financial planning process, forecasts of rates and charges, system demands, and costs and revenues are regularly updated to correspond to Board actions with regard to the annual budget process. Projected rates and charges are used by the member agencies for their own budgeting, financial planning, and rate setting purposes. The projected rates also serve as a benchmark against which investments in alternative water supplies, such as water recycling and transfers, are compared.

The attached report summarizes the 1997-98 Budget Ten-Year Forecast of Rates and Charges. Metropolitan's ability to maintain the current water rates for an extended period of time will, to a large extent, be dependent upon growth in system demands and the continued success of the cost containment effort. However, if system demands do not increase as expected, if the mix of sales to the agencies changes, or if actual costs are higher than projected, Metropolitan's ability to maintain the water rates at their current level may be adversely impacted. Table A below summarizes the projected treated and untreated water rates. Table B (attached) summarizes the total Readiness to Serve Charge obligation forecast for each member agency through year 2001. Consistent with the recommendation of the Rate Refinement Process approved by your Board in July 1996, the forecast assumes that the Readiness to Serve Charge will increase at a rate of \$8 million per year through Fiscal Year 2001-02.

**Table A**  
**PROJECTED MWD WATER RATES (\$/AF)**  
**1997-98 Budget Forecast (July 1997)**

Year	Full Service		Long-Term Seasonal		Seasonal Shift		Agricultural	
	Treated	Untreated	Treated	Untreated	Treated	Untreated	Treated	Untreated
1997	\$431	\$349	\$290	\$233	\$290	\$233	\$294	\$236
1998	\$431	\$349	\$290	\$233	\$301	\$244	\$294	\$236
1999	\$431	\$349	\$290	\$233	\$312	\$255	\$294	\$236
2000	\$431	\$349	\$290	\$233	\$323	\$266	\$294	\$236
2001	\$431	\$349	\$290	\$233	\$334	\$277	\$294	\$236
2002	\$434	\$349	\$293	\$233	\$349	\$289	\$297	\$236
2003	\$437	\$349	\$296	\$233	\$352	\$289	\$300	\$236
2004	\$440	\$349	\$299	\$233	\$355	\$289	\$303	\$236
2005	\$443	\$349	\$302	\$233	\$358	\$289	\$306	\$236
2006	\$446	\$349	\$305	\$233	\$361	\$289	\$309	\$236
2007	\$448	\$349	\$307	\$233	\$363	\$289	\$311	\$236

The attached report summarizes the long-term forecast of Metropolitan's water rates. The report summarizes changes from the previous forecast (presented to your Board in July 1996) and describes basic assumptions, including projected system demands, costs, and other revenue sources. An analysis of projected financial performance and a description of risk factors that may impact the level of the project water rates are also included.

SOC:cl

Attachments

o:cluster10\mmshared\board\soc10yr3.doc

**Table B**  
**PROJECTED TOTAL RTS CHARGE OBLIGATION (\$1,000's)**

Fiscal Year	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
Anaheim	\$ 787.8	\$ 940.6	\$ 1,038.9	\$ 1,137.8	\$ 1,236.8	\$ 1,286.2
Beverly Hills	531.6	650.6	718.6	787.0	855.5	889.7
Burbank	730.2	830.7	917.5	1,004.9	1,092.3	1,136.0
Calleguas MWD	3,548.4	4,416.5	4,878.1	5,342.7	5,807.3	6,039.6
Central Basin MWD	2,722.1	3,471.2	3,834.1	4,199.2	4,564.4	4,747.0
Chino Basin MWD	1,409.1	1,727.8	1,908.5	2,090.2	2,272.0	2,362.9
Coastal MWD	1,626.9	2,008.8	2,218.8	2,430.1	2,641.4	2,747.1
Compton	166.5	187.3	206.8	226.5	246.2	256.1
Eastern MWD	2,030.4	2,425.2	2,678.7	2,933.8	3,188.9	3,316.5
Foothill MWD	307.4	400.2	442.1	484.2	526.3	547.3
Fullerton	301.0	374.9	414.1	453.5	492.9	512.7
Glendale	1,101.7	1,330.0	1,469.1	1,609.0	1,748.9	1,818.8
Las Virgenes MWD	730.2	905.6	1,000.3	1,095.6	1,190.8	1,238.5
Long Beach	1,774.2	2,138.6	2,362.1	2,587.1	2,812.1	2,924.6
Los Angeles	8,992.6	8,255.9	9,118.9	9,987.4	10,855.9	11,290.1
MWDOC	7,417.0	8,927.7	9,861.0	10,800.2	11,739.3	12,208.9
Pasadena	595.7	745.3	823.2	901.6	980.0	1,019.1
San Diego	16,287.9	20,485.6	22,627.1	24,782.0	26,937.0	28,014.5
San Fernando	6.4	5.3	5.9	6.4	7.0	7.3
San Marino	57.6	66.7	73.7	80.7	87.7	91.2
Santa Ana	531.6	635.1	701.5	768.3	835.1	868.5
Santa Monica	198.6	251.8	278.1	304.6	331.1	344.3
Three Valleys MWD	2,401.9	2,929.3	3,235.5	3,543.6	3,851.8	4,005.8
Torrance	845.5	1,021.1	1,127.8	1,235.3	1,342.7	1,396.4
Upper San Gabriel MWD	313.8	360.1	397.8	435.6	473.5	492.5
West Basin MWD	6,481.9	7,699.6	8,504.5	9,314.5	10,124.4	10,529.4
Western MWD	2,152.1	2,858.5	3,157.4	3,458.1	3,758.8	3,909.1
<b>TOTAL MWD</b>	<b>\$ 64,050.0</b>	<b>\$ 76,050.0</b>	<b>\$ 84,000.0</b>	<b>\$ 92,000.0</b>	<b>\$ 100,000.0</b>	<b>\$ 104,000.0</b>

**Metropolitan Water District of Southern California**  
**Ten Year Forecast of Water Rates**  
**July 1997**

**Introduction**

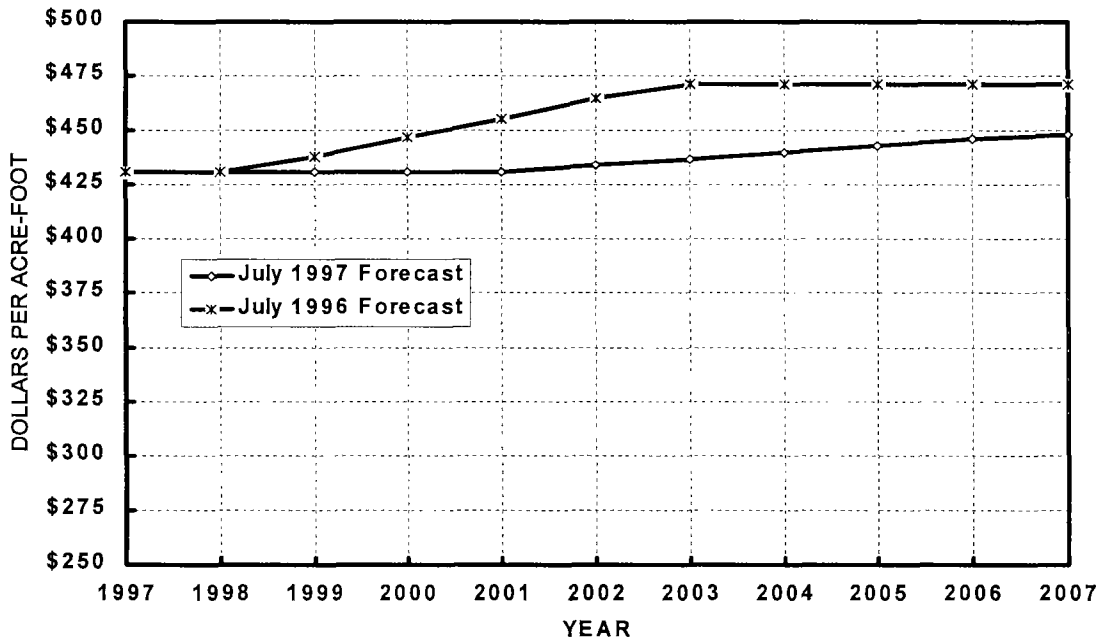
The following report summarizes the long-term forecast of Metropolitan's water rates including changes from the previous forecast (presented to your Board in July 1996), projected system demands, costs, other revenue sources, financial performance and risk factors that may impact the level of the future water rates.

**Changes from Previous Forecast**

The last long-term forecast of water rates, presented to your Board in July 1996, corresponded to the 1996-97 Budget and reflected the results of Phase I of the Rate Refinement process and the initial results of the cost containment effort. Since that time, the forecast has been updated to reflect the 1997-98 Budget and revised long-term projections of system demands, costs and revenues.

The Full Service treated water rate is currently projected to be \$448 per acre-foot in year 2007, a \$23 decrease over last year's projection of \$471 per acre-foot. Figure 1 illustrates the change in the long-term trend for the Full Service Treated water rate between the previous and current forecast.

Figure 1.  
Changes in the Long-Term Forecast of MWD Full Service Treated Water Rate (\$/AF)



Specifically the current forecast includes the following revisions to the July 1996 forecast:

- (1) An increase in projected total demand of about 0.050 million acre-feet in Fiscal Year 2006-07 from 2.17 million acre-feet to 2.22 million acre-feet,
- (2) A change in the mix of water sales that reflects a lower percentage of Seasonal Storage Service deliveries corresponding more closely with current production patterns,
- (3) A decrease in projected costs of almost \$127 million over the forecast period due to revisions in cost estimates for the State Water Project, Capital Improvement Program and Water Management Programs.

## **Forecast Summary**

### Major Assumptions

There are several major assumptions made in the forecast with regard to the projected costs and other revenues including:

- Expected Normal Weather Conditions
- Bond interest rate of 6.25 percent
- Commercial Paper Interest rate of 4.25 percent
- MWD O&M escalation of 3.00 percent per year
- MWD Capital Cost escalation of 5.00 percent per year
- A historic average mill rate of 6 mills/kWH is used for SWP Variable power and is escalated at 3.00 percent per year
- CRA Market energy rates are escalated from 15mills/kWH at 3 percent per year
- Interest earnings of 6.00 percent per year

### Projected Water Rates

If total system demands increase as expected and actual costs are not significantly higher than anticipated, the current Full Service Untreated water rate of \$349 per acre-foot may not increase until after year 2007. The current treatment surcharge of \$82 per acre-foot is not expected to increase until year 2002.

These projections are significantly below the parameters defined during Phase I of the Rate Refinement process which set a cap on the increase in the treated basic rate of 1.5 percent for 1998 and 1999 (about \$6 per acre-foot) and 2 percent (about \$9 per acre-foot) in years 2000 and 2001. Table 1 shows the projected water rates by class of service through year 2007.

**Table 1.**  
**PROJECTED MWD WATER RATES (\$/AF)**

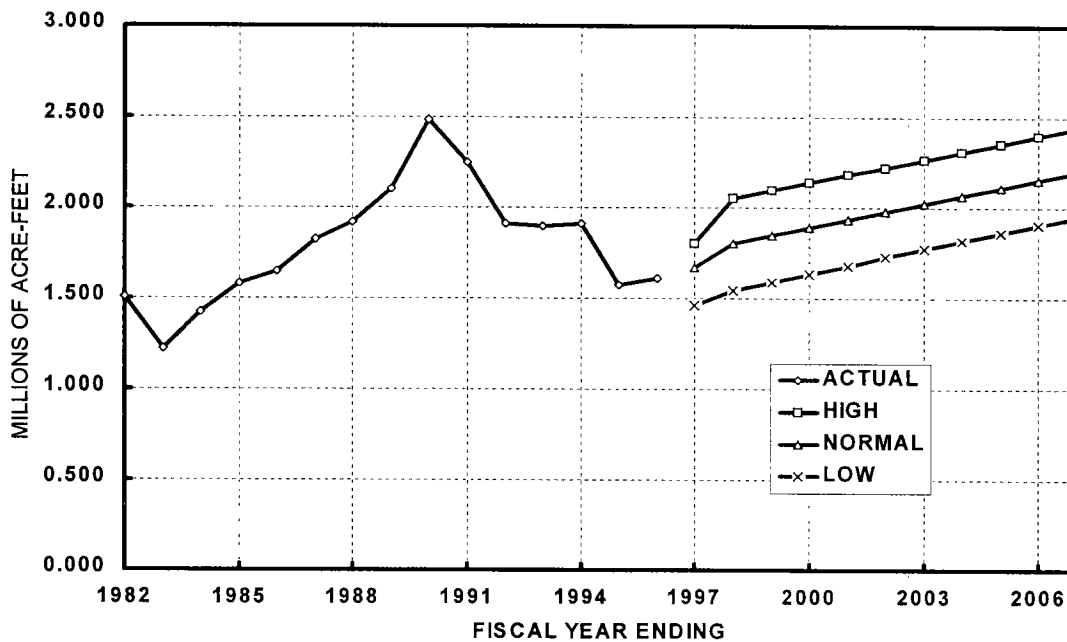
1997-98 Budget Forecast (July 1997)

Year	Full Service		Long-Term Seasonal		Seasonal Shift		Agricultural	
	Treated	Untreated	Treated	Untreated	Treated	Untreated	Treated	Untreated
1997	\$431	\$349	\$290	\$233	\$290	\$233	\$294	\$236
1998	\$431	\$349	\$290	\$233	\$301	\$244	\$294	\$236
1999	\$431	\$349	\$290	\$233	\$312	\$255	\$294	\$236
2000	\$431	\$349	\$290	\$233	\$323	\$266	\$294	\$236
2001	\$431	\$349	\$290	\$233	\$334	\$277	\$294	\$236
2002	\$434	\$349	\$293	\$233	\$349	\$289	\$297	\$236
2003	\$437	\$349	\$296	\$233	\$352	\$289	\$300	\$236
2004	\$440	\$349	\$299	\$233	\$355	\$289	\$303	\$236
2005	\$443	\$349	\$302	\$233	\$358	\$289	\$306	\$236
2006	\$446	\$349	\$305	\$233	\$361	\$289	\$309	\$236
2007	\$448	\$349	\$307	\$233	\$363	\$289	\$311	\$236

### Projected System Demands

Total system water demands under normal weather conditions are projected to be about 2.22 million acre-feet by year 2007. In recent years, total system demands have been relatively low due to the effects of the last economic recession, conservation measures enacted since the 1987-1991 drought, and wet weather. Because of these factors, demands are not expected to exceed the level experienced in 1990 (after normalizing for weather) until after 2007. Weather will continue to cause variations of up to  $\pm 20$  percent for annual total system demands as illustrated by the range of projected demands shown in Figure 2. This variation is related to three primary factors: (1) local weather effects on retail demand, (2) variability in Los Angeles Aqueduct deliveries due to Sierra Nevada hydrology, and (3) natural replenishment of local groundwater and reservoir storage supplies.

Figure 2.  
Projected Total System Demands



### Projected Costs

Over the next ten years, as the Cal-Fed process moves toward a Bay-Delta solution and Metropolitan continues to invest in regional infrastructure through the Capital Improvement Program (CIP), the State Water Project (SWP) and CIP will contribute the majority of an expected increase of 40 percent or \$317 million in total annual costs by Fiscal Year 2006-07. The forecasted rates are expected to fund a \$3.9 billion capital program. Total annual costs are estimated to increase at an annual average rate of 3.2 percent, reaching \$1.12 billion by Fiscal Year 2006-07. Table 2 (attached) summarizes the major cost categories included in the total annual revenue requirement to be collected from the water rates and treatment surcharge.

### Other Revenue Sources

Along with projected growth in system demands and slower growth in projected costs, stable increases of \$8 million per year in the Readiness to Serve Charge (RTS) through Fiscal Year 2001-02 help maintain the current commodity rate levels. After Fiscal Year 2001-02 the total RTS charge is assumed to remain constant at \$104 million per year. The projected increases in the RTS are consistent with the recommendations of the Rate Refinement Process approved by your Board in July 1996. The RTS will fund about one-third of the non-tax supported debt service. Over the next ten years non-tax supported debt service costs are projected to increase from their

currently budgeted level of approximately \$150 million to almost \$300 million. Other revenue sources, including interest, property taxes, and hydro-power are expected to generate about 15 percent of the total annual revenues throughout the forecast period. Table 2 summarizes the other revenue sources that help reduce the amount of revenue collected through the water rates.

### Financial Performance

The forecast indicates continued strong financial performance without increases to the Full Service water rate or treatment surcharge for a number of years. Although the Junior Lien Revenue Bond Debt Service Coverage Ratio (Coverage) will continue to decline from its currently estimated level of 4.65 times as Metropolitan's debt service costs increase, the Coverage does not fall below 2.0 times for the duration of the forecast. The Fixed Charge Coverage ratio, an indicator of the extent to which fixed costs are covered by net revenues available after meeting Operating and Maintenance obligations, does not decrease below 1.1. Another indicator of financial performance, the debt to equity ratio also is well within the specified parameter of 1.0 and is not expected to exceed 0.6.

### Forecast Uncertainty

In the future, it is likely that reserves will be used to mitigate periods of low sales and/or absorb higher than expected costs. The following risk factors may cause the use of reserves and, to the extent that the reserves are unable to mitigate for these factors, rate increases not anticipated in the current forecast.

- Periods of Low Sales Caused by Wet Weather
- Slower than Expected Growth in Total System Demands
- Higher than Expected Capital Costs
- Unexpected Supply Costs
- Salinity Management Issues
- Restructuring of the Electric Utility Industry

As risk factors and financial conditions change, Metropolitan's reserves are continuously evaluated and adjusted. Working with the member agencies through the Finance Workgroup (FWG), Metropolitan has recently been reviewing the reserve funds to improve the understanding of their purpose and optimize how these funds are utilized. The Board will review any recommended changes to policy parameters surrounding the use of the reserve funds through the update of the Long-Range Finance Plan.



**Table 2.**  
**PROJECTED TOTAL REVENUE REQUIREMENT (\$MILLIONS)**

Fiscal Year Ending	Estimated 1996-97	Budget 1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Costs (\$Millions)</b>											
State Water Project Supplies <sup>1</sup>	255.5	288.3	269.4	274.4	310.4	344.5	347.0	351.3	356.1	360.9	364.3
Colorado River Supplies	34.6	28.7	35.9	37.8	39.4	43.0	46.0	49.1	52.2	55.4	58.9
Water Management Programs <sup>2</sup>	72.4	51.9	55.8	62.6	52.2	54.5	56.3	57.4	58.7	60.8	62.2
Capital Program <sup>3</sup>	328.2	350.7	213.6	338.2	341.5	366.5	377.0	396.1	375.2	362.0	367.9
MWD O&M and Other <sup>4</sup>	173.8	255.5	219.8	234.2	240.9	231.9	239.4	249.5	257.6	280.4	288.3
<b>Total Costs and Obligations</b>	<b>864.5</b>	<b>975.1</b>	<b>794.4</b>	<b>947.2</b>	<b>984.5</b>	<b>1,040.4</b>	<b>1,065.6</b>	<b>1,103.3</b>	<b>1,099.9</b>	<b>1,119.4</b>	<b>1,141.7</b>
<b>less Other Revenues (\$Millions)</b>											
Taxes	82.6	84.3	86.0	87.7	89.4	91.2	90.9	91.0	91.0	90.7	90.5
Interest	52.5	44.0	49.5	56.8	57.3	57.1	57.6	57.8	58.5	59.8	60.9
Power & Misc <sup>5</sup>	24.0	16.3	13.8	14.1	14.5	14.8	14.9	15.3	15.7	16.9	18.3
Readiness to Serve Charge	64.1	76.1	84.0	92.0	100.0	104.0	104.0	104.0	104.0	104.0	104.0
Connection Maintenance Charge	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
<b>Total Other Revenues</b>	<b>226.2</b>	<b>223.6</b>	<b>236.1</b>	<b>253.5</b>	<b>264.2</b>	<b>270.1</b>	<b>270.4</b>	<b>271.1</b>	<b>272.2</b>	<b>274.4</b>	<b>276.7</b>
<b>Total Revenue Requirement (\$Millions)</b>	<b>638.3</b>	<b>751.5</b>	<b>558.3</b>	<b>693.7</b>	<b>720.3</b>	<b>770.3</b>	<b>795.2</b>	<b>832.2</b>	<b>827.7</b>	<b>845.0</b>	<b>865.0</b>

Notes:

- 1 Includes funding for Delta Improvements.
- 2 Includes deposits to the Water Transfer Fund through year 2004 and one time adjustment for LRP conversions in 1996-97.
- 3 Includes the headquarters building funding and reimbursement.
- 4 Includes business enterprise development and PERS unfunded liability payment in FY1997-98 and a \$32M decrease in required reserves in FY1996-97.
- 5 Includes business enterprise development revenues in FY1997-98.