

- **Board of Directors**
Water Planning, Quality and Resources Committee

July 12, 2005 Board Meeting

9-2

Subject

Report on implementation of the first year of Metropolitan's Five-Year Conservation Strategy Plan

Description

This letter summarizes staff implementation of key first-year goals for Metropolitan's Five-Year Conservation Strategy Plan, which was presented to the Board in March. Progress is reported in: transitioning device retrofit incentive programs, identifying new devices that could be eligible for retrofit incentives, and updating the incentive rate and its application. Each of these areas would require board adoption prior to implementation, and all are anticipated to benefit the region's Integrated Resources Plan for supply reliability.

In order to achieve IRP Update goals for 1.1 million acre-feet of conservation by 2025, the IRP Update anticipates 300,000 acre-feet of water conservation from actively incentivized programs. To reach 300,000 acre-feet, about 10,000 acre-feet of new program water is needed each year. In year one of the five-year plan, 9,000 acre-feet of water savings is expected. It is also recognized that participation in Metropolitan's toilet rebate program is declining due to market saturation and natural replacement. The five-year plan anticipated this major change, and the following items were identified to create new directions in order to achieve updated IRP goals.

Conservation Incentive Level Review

After Metropolitan launched a review of its conservation incentives as part of the IRP Update, Metropolitan staff consulted with member agencies, and developed the five-year plan, which identified a need for 300,000 acre-feet of additional conservation by 2025. Currently, staff is working with member agencies to review Metropolitan's conservation incentive rate and the most productive way of applying it. A kick-off meeting held in June with the member agencies identified key issues requiring analysis and development: (1) updating the incentive level; (2) examining administrative policy of providing conservation credits at the level of the lesser of one-half the program cost or \$154 per acre-foot saved; (3) exploring opportunities for research and pilot funding to advance new technologies; (4) determining what steps are needed to motivate water saving changes in new areas, especially in landscape and commercial water conservation; (5) creating comprehensive approaches to advance new water conservation actions; and (6) wisely and selectively using financial resources to optimize return on cost-effective conservation investments.

Metropolitan currently offers the lesser of one-half the cost of conservation devices or \$154 per acre-foot of water saved. Member agencies generally agree that merely increasing \$154 per acre-foot incentive would have marginal benefits if not complemented with new or effective implementation approaches. For instance, Metropolitan uses grant money to offer rebates in excess of the \$154 incentive for weather-based irrigation controllers, yet the public is responding weakly. In this case, a new delivery method may be needed. Recommendations to the Board on the results of the incentive level review are scheduled for board consideration in December 2005.

Residential Ultra-Low-Flush Toilet Program Evolution

In close coordination with member agencies, staff has crafted a new approach under which Metropolitan's 17-year-old Ultra-Low-Flush Toilet (ULFT) program would require product reliability standards and transition to new devices with greater water savings. In 1992, federal legislation was enacted requiring ULFTs as the standard for toilets sold in the United States. For several years, approximately 90 percent of Metropolitan's Conservation Credits budget was used to encourage customers to switch to new toilets meeting the 1992 federal standards.

Program participation has now started to rapidly decline because of market saturation from member agency programs and natural replacement (without incentive) of older units over time. An evolution plan for the ULFT Program was jointly developed and includes three phases with a transition to fund only toilets that exceed the 1992 standard. The phased plan is described in [Attachment 1](#).

New Areas of Savings with New Conservation Devices

Staff is working with member agencies to review existing programs and pursue new technology with water saving opportunities. Analysis has identified a group of retrofit actions that are sufficiently developed for inclusion in Metropolitan’s incentive program. It may be worthwhile to adopt proposed incentives now to launch these items and revisit incentive levels later in the year based on the results of the incentive review process. Experience also indicates that it is time to refine ongoing activities as described in [Attachment 1](#). These would include modifying the Residential Survey Program, making minor modifications to the Landscape Program, adjusting the CII urinal device incentives, and providing incentives for new technologies. The following devices could qualify for new incentives:

**Table 1
New Conservation Credits Technologies Analyzed**

Water Saving Technology	Eligible Customers	Potential Incentive
Food Steamers	CII	\$570
Zero Water Urinals	CII	\$185
High-Efficiency Urinals	CII	\$100
pH Cooling Tower Conductivity Controller	CII	\$1,500
High-Efficiency Toilets	Residential and CII	\$130 and \$25*

**New construction or ULFT upgrade*

Staff and member agencies analyzed new landscape incentives for synthetic turf, pressure regulators, and stream rotors, but are making no recommendation at this time because of insufficient data to quantify water savings. Additional modifications to the Residential Survey Program and guidelines for pilot incentive programs were also discussed. These items will be assessed with member agencies in the upcoming year-two strategic plan modifications.

Ongoing Process for the Five-Year Conservation Plan

Metropolitan’s five-year plan will be updated annually in consultation with member agencies to integrate targeted actions for upcoming years. The IRP Report Card will be used to review program adequacy and identify needed improvements.

Policy

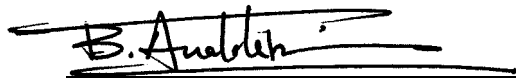
By Minute Item 37324, dated September 1988, the Board adopted the Conservation Credits Program.

By Minute Item 38290, dated May 1990, the Board set the incentive amount at \$154/AF of water conserved to a maximum contribution of one-half the project cost.

By Minute Item 45828, dated July 2004, the Board adopted the Integrated Water Resources Plan Update.

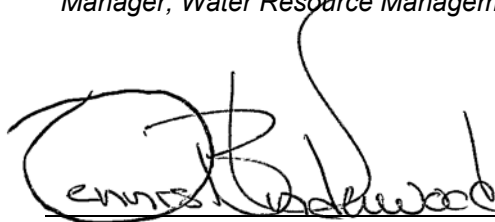
Fiscal Impact

Year-to-year impact based on budget of Conservation Credits Program.



B. Anatole Falagan
for Stephen N. Arakawa
Manager, Water Resource Management

6/20/2005
Date



Dennis B. Underwood
CEO/General Manager

6/21/2005
Date

Attachment 1 – Analysis of Conservation Program Modifications

BLA #3351

Analysis of Conservation Program Modifications

RESIDENTIAL PROGRAM CHANGES

1. New incentives for high-efficiency toilets
2. Residential Ultra-Low-Flush Toilet Program evolution
3. Modifications to Residential Survey Program

1. New Incentives for High-Efficiency Toilets

The plumbing industry is introducing many new technologies and toilet fixture models that are more water efficient than ultra-low-flush toilets (ULFT). The High-Efficiency Toilet (HET) is defined as a fixture that flushes at 20 percent below an ULFT, equating to a maximum of 1.28 gpf. The average water savings for HETs is 7 gallons per day (gpd) more than an ULFT. These savings combined with the average water savings of an ULFT averages about 38 gpd. With an estimated 20-year life and at the Metropolitan incentive level of \$154 per AF of water saved, an HET could be eligible for an incentive of \$131. The average cost of installing an HET is approximately \$300 per unit. Since one-half the cost would be more than \$154 per AF, the incentive level is recommended at \$130 per HET. This incentive is for the installation of both the bowl and the tank. Funding would be provided for HETs as follows:

Retrofit Device	Incentive Amount
High-efficiency toilet	\$130
Upgrade from ULFT to HET	\$25
HET for new development	\$25

2. Residential Ultra-Low-Flush Toilet Program Evolution

Metropolitan has funded ULFT programs since 1988. In 1992, federal legislation was enacted requiring 1.6 gallons per flush (gpf) toilets as the standard for toilets sold in the United States. Metropolitan forecasts 50 percent saturation of ULFTs in its service area by 2005 and 80 percent by 2025. Much of the increase in saturation would occur through compliance with 1992 federal legislation.

Because of projected ULFT saturation through retrofit programs and natural replacement over time, a ULFT program evolution has been developed, which includes three phases:

Phase 1:

The first step would be to fund only toilets that meet higher standards than the current plumbing code. A toilet specification, which was developed by the Los Angeles Department of Water and Power and has also been adopted by the San Diego County Water Authority, would be used to establish a higher standard for ULFTs to be funded. Funding for HET would be provided as recommended above. This Phase would begin July 1, 2006 as shown:

Retrofit Device	Incentive Amount
Ultra-low flush toilet meeting higher standard	\$60
High-efficiency toilet	\$130
Upgrade from ULFT to HET	\$25
HET for new development	\$25

Phase 2: The second step would be to provide funding only for HETs. This Phase would begin July 1, 2009 as shown:

Retrofit Device	Incentive Amount
Ultra-low flush toilet	Not funded
High-efficiency toilet	\$130
Upgrade from ULFT to HET	\$25
HET for new development	\$25

Phase 3: The third step would be to fund only HETs at the incremental savings above an ULFT. This Phase would begin July 1, 2012 as shown:

Retrofit Device	Incentive Amount
Ultra-low flush toilet	Not funded
High-efficiency toilet	\$25
Upgrade from ULFT to HET	\$25
HET for new development	\$25

3. Modifications to Residential Survey Program

Metropolitan currently financially supports residential indoor water-use surveys conducted by the member agencies with incentives for indoor surveys, various devices, and outdoor surveys. Some items, including low-flow showerheads, aerators, and toilet displacement devices have reached saturation levels or are no longer applicable as a result of retrofit programs and natural replacement. To streamline the Residential Survey Program, the recommendation is to stop funding individual devices, which includes showerheads, aerators, toilet displacement devices, and flappers. Incentives would only be paid for the indoor and outdoor survey components. This would replace the previous Residential Survey Program Co-Pay Matrix.

LANDSCAPE PROGRAM CHANGES

1. Water Use Accountability to allow new development
2. Weather Based Irrigation Controller Rebate for large residential
3. Stream rotor retrofit
4. Synthetic turf
5. Pressure regulators

1. Water Use Accountability to Allow New Development

In September 2004, the Water Use Accountability Program was approved to improve landscape water use efficiency by altering water use behavior of site participants via the development of water budgets, providing professional landscape irrigation training, and regularly communicating water use performance data. New development was excluded from this program. The recommendation is that new development should qualify equally for participation in this program because water savings would be the same as for existing landscapes.

2. Weather Based Irrigation Controller Rebate for Large Residential

In September 2004, the Weather Based Irrigation Controller (WBIC) Rebate Program was authorized to improve landscape water use efficiency by incentivizing property owners of commercial, industrial and institutional sites to install WBICs at a rate of \$500 per acre. Large single-family residences were inadvertently left out of this

incentive. It is recommended that single-family residences with lot size over one acre qualify for the incentive of \$500 per acre because the water savings for a large residential site would be comparable to a commercial site. Payment would be based on irrigated acreage.

3. Stream Rotor Retrofit

New sprinkler nozzles have been developed that convert a spray sprinkler head to a rotor sprinkler head. The benefits of a rotor sprinkler head are improved distribution uniformity and reduced precipitation rates. Not enough data has been found at this time to make a recommendation for incentive.

4. Synthetic Turf

Synthetic turf is manufactured artificial grass. It is commonly used in sports fields and schools. Not enough data has been found at this time to make a recommendation for incentive.

5. Pressure Regulators

Pressure regulators reduce the incoming pressure entering your system to the recommended operating pressure of the sprinkler system, reducing overspray, misting, and wear and tear on the system. Not enough data has been found at this time to make a recommendation for incentive.

COMMERCIAL/INDUSTRIAL/INSTITUTIONAL PROGRAM CHANGES

1. High-efficiency toilets
2. Urinals
3. pH cooling tower conductivity controllers
4. Connectionless food steamers

1. New Incentives for High-Efficiency Toilets

The plumbing industry is introducing many new technologies and toilet fixture models that are more water efficient than ULFT. The HET is defined as a fixture that flushes at 20 percent below an ULFT, equating to a maximum of 1.28 gpf. The average water savings for HETs is 7 gallons per day gpd more than an ULFT. These savings combined with the average water savings of an ULFT averages about 38 gpd. With an estimated 20-year life and at the Metropolitan incentive level of \$154 per AF of water saved, an HET could be eligible for an incentive of \$131. The average cost of installing an HET is approximately \$300 per unit. Since one-half the cost would be more than \$154 per AF, the incentive level is recommended at \$130 per HET. This incentive is for the installation of both the bowl and the tank. Funding would be provided for HETs as follows:

Retrofit Device	Incentive Amount
High-efficiency toilet	\$130
Upgrade from ULFT to HET	\$25
HET for new development	\$25

2. Urinal Rebates

Metropolitan currently pays \$60 per urinal installed, with water use of one gallon per flush or less. The recommendation is that starting January 1, 2006, Metropolitan no longer fund standard urinals, and fund only zero water urinals and high-efficiency urinals (HEU).

Zero water urinals – Zero water urinals are urinals that use technologies rather than water to eliminate liquid waste, such as a cartridge or a sealant. Based on data from studies of actual usage in several locations, these urinals save an average of 40,000 gallons per year. With an estimated 20-year life and at the Metropolitan incentive level of \$154 per AF of water saved, zero water urinals could be eligible for an incentive of \$378. The average cost of zero water urinals is \$370. Since \$154 per AF would be more than one-half the cost, the incentive level is recommended at \$185 per zero water urinals. This incentive is for a retrofit of both the bowl and the fixture and is not for new construction.

High-efficiency urinals - HEUs are urinals that use 0.5 gallons per flush or less. Based on data from studies of actual usage, these urinals save 20,000 gallons per year. With an estimated 20-year life and the Metropolitan incentive level of \$154 per AF of water saved, HEUs could be eligible for an incentive of \$189. The average cost of HEUs is \$200. Since \$154 per AF would be more than one-half the cost, the incentive level is recommended at \$100 per urinal. This incentive is for a retrofit of both the bowl and the fixture and is not for new construction.

Funding for zero water urinals and HEUs would be as follows:

Retrofit Device	Incentive Amount
Zero water urinal	\$185
High-efficiency urinal	\$100

3. pH Cooling Tower Conductivity Controllers

These controllers continuously monitor and automatically maintain pH levels by activating either an acid or base chemical feeder. Based on data from the Los Angeles Department of Water and Power's Technical Assistance Program, these controllers save an average of 844,430 gallons per year. With an estimated five-year life and at the Metropolitan incentive level of \$154 per AF of water saved, the controller could be eligible for an incentive of \$1,995. Adjusting for behavioral factors, it is recommended to use 75 percent of estimated water savings potential or \$1,500. The average cost of these controllers is \$4,500. Since one-half the cost would be more than \$154 per AF, the recommended incentive is \$1,500.

4. Connectionless Food Steamers

New water efficient connectionless food steamers (no water line or sewer discharge line) for restaurants have been developed. This type of food steamer is intended for small to medium-size restaurants. Metropolitan currently knows of ten manufacturers of connectionless food steamers. Based on data from a study done by the Food Service Technology Center, the connectionless steamers save an average of 150,000 gallons per year. With an estimated eight-year life and at the Metropolitan incentive level of \$154 per acre-foot (AF) of water saved, connectionless food steamers could be eligible for an incentive of \$567 per compartment (some steamers have two separate compartments). The average cost of connectionless food steamers is about \$4,500. Since one-half the cost would be more than \$154 per AF, the incentive level is recommended at \$570 per compartment.