

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

December 13, 2005 Board Meeting

8-8

Subject

Authorize implementation of conservation incentive level updates and program refinements from Metropolitan's Five-Year Conservation Strategy Plan

Description

Authorization is requested to increase Metropolitan's conservation incentive level and implement program refinements that are consistent with key reviews called for in Metropolitan's Five-Year Conservation Strategy Plan. The Five-Year Plan was presented to the Board in March 2005 and followed up with a progress report in July 2005. The proposed updates and refinements are targeted to benefit the region by helping achieve the Integrated Water Resources Plan conservation goal and creating the potential for greater savings than the additional 200,000 acre-feet (AF) required to achieve the IRP goal. Authorization is requested in three areas:

1. Update of the incentive level and its application;
2. Transition to high-efficiency devices; and
3. Adopt new retrofit devices eligible for incentives.

In order to achieve the 2025 IRP conservation target of 1.1 million AF per year, an additional 200,000 AF per year, or about 10,000 AF per year of new yield, is required from programs supported by Metropolitan incentives. In 2005, new yield from existing programs declined to about 9,000 acre-feet of water savings. The Five-Year Plan recognized that participation in Metropolitan's existing ultra-low-flush toilet (ULFT) incentive program would decline and that new approaches are needed to achieve the IRP goal. In response, a transition process is proposed to phase out incentives for ULFTs and create new higher device incentives for high-efficiency toilets (HET), which use at least 20 percent less water than ULFTs. The long-term objective of this change is to achieve a market transformation from ULFT to HET to increase conservation. Other proposed program changes target advancing high-efficiency retrofits for irrigation and commercial water users. If the targeted market transformations occur in the residential, landscape, and commercial sectors, then conservation potential in Metropolitan's service area is projected to increase beyond the 200,000 AF required to achieve the IRP target.

1. Update of the Incentive Level and its Application

As directed by the Board and in consultation with member agencies, staff conducted a comprehensive review of Metropolitan's conservation incentive level and its application. Beginning in June 2005, staff held meetings with member agencies to address: (1) updating the incentive level; (2) examining the policy of limiting conservation credits to one-half the product cost; (3) methods for assisting in identifying and developing new conserving technologies and programs; (4) determining what is needed to motivate customers to save water using new technologies, especially in the landscape and commercial sectors; (5) creating a comprehensive strategy to advance new water conservation actions; and (6) effective use of Metropolitan's financial resources to maximize return on conservation incentives and other program investments.

The conservation incentive level is the amount of funding Metropolitan would provide to member agencies to incentivize programs and devices for each acre-foot of water conserved.

After reviewing multiple options, staff and member agencies agreed on a multi-pronged approach based on Metropolitan's avoided cost of providing water to achieve the IRP conservation goals and increase conservation potential. This new approach includes the following:

Incentive Level for Core Conservation Program – An update to Metropolitan’s current incentive level applied to its core conservation program to achieve the water savings goals of the IRP and meet the California Urban Water Conservation Council guidelines.

- Increase incentive level for new high-efficiency programs and devices at \$195/AF for each acre-foot conserved, based on Metropolitan’s avoided cost.
- Maintain existing incentive level for ULFT program through 2008.
- Projected budget could increase over the next five years from the current level of \$15 million per year to \$21 million per year. This change would not affect the 2005/06 or 2006/07 incentive budget.

Enhanced Conservation Program – A new element of Metropolitan’s conservation program to pilot and develop new programs and pilot improvements to existing programs through incentives for water savings to member agencies, potentially leading to inclusion of new or improved conservation in the Core Program.

- Proposed projects are awarded on a competitive basis with incentives levels up to \$250/AF, similar to Metropolitan’s Local Resources Program.
- Up to \$4 million awarded every two years, budgeted at up to \$2 million per year.

Innovative Conservation Program – An existing program that funds research of new conserving devices, technologies, and systems through grants to public and private innovators, to quantify savings and potentially lead to pilots in the Enhanced Program or programs and devices in the Core Program.

- Grants for proposed research are awarded on a competitive basis up to cost of project.
- Up to \$250,000 awarded every two years, budgeted at up to \$125,000 per year.

Database and Market Research Studies -- Development of research and service area information needed to efficiently advance new residential, landscape and commercial conservation programs, including the best implementation approaches for the service area.

- Estimated cost of \$400,000 per year.

Legislation and Standards – Activities targeted at ensuring the longevity of water savings by working with industry groups to adopt new water-efficient standards and seek broad endorsement for conservation ordinances and codes.

- Estimated cost of \$125,000 per year.

As part of the development of the Core Conservation Program, staff reviewed Metropolitan’s policy of limiting device incentives to one-half the product cost. The principle and practice of this policy ensured conservation program cost-share at the local level, encouraged partnerships with other beneficiaries of conservation, and helped reinforce the value of retrofit devices by requiring local investment. While cost-share and partnering goals still exist, the higher cost of newly targeted conservation devices, local costs of program administration, and the local cost of device installation also help achieve these goals. Therefore, staff proposes the device incentives in the Core Program be at a level of \$195 per acre-foot of conserved water up to 100 percent of the cost of a device.

Programs that target conservation through process improvement do not have easily identified devices that qualify for incentives. Therefore, it is recommended that incentives adopted for process improvement projects be \$195 per acre-foot up to 50 percent of the cost of the program. An example of such a program is the Industrial Process Implementation program. Under this proposal, Metropolitan would provide \$195/AF for conserved water, up to one-half of the retrofit cost. The proposed cost-sharing approach relies on local costs for local administration, installation, and in most cases a portion of the device costs. Member agencies have acknowledged this local cost-share principle in discussions with Metropolitan staff and have committed to increasing landscape and commercial conservation, as well as converting to high-efficiency toilet programs by 2009.

The refinements to the incentive level and its application are not expected to increase the conservation budget of \$15 million per year through the end of fiscal year 2006/07, but as new conservation devices become more widespread, expenditures may increase to as much as \$24 million per year in five years.

The proposed device and program incentives, consistent with the above-described guidelines, are listed in [Attachment 1](#). Further changes and additions would be brought to the Board for future approval.

2. Transition to High Efficiency Devices

Residential Toilet Program Evolution

Staff, working with the member agencies, developed a plan to transition Metropolitan's 17-year-old ULFT program to a HET program with greater water savings within three years. In 1992, federal legislation was enacted requiring ULFTs as the standard for toilets sold in the United States. For several years, most of Metropolitan's Conservation Credits budget was used to encourage customers to switch to new toilets meeting the 1992 federal standards. A new industry standard for HETs, which use 20 percent less water than ULFTs, was recently developed. Transitioning of Metropolitan's toilet incentive program, which includes two phases described in [Attachment 2](#), is aimed at growing the public's acceptance of the new HETs.

3. New Devices

To fulfill a year-one goal of Metropolitan's Five-Year Plan, staff worked with the member agencies to review existing programs and recommend new devices to receive conservation incentives. As a result of this work, staff proposes to add new or refined incentives ([Attachment 2](#)) to the core program. These recommendations include modifying the Residential Survey Program, making minor modifications to the Landscape Program, adjusting the commercial urinal device incentive and establishing incentives for new technologies.

Staff will continue to work with the member agencies during the following five years to develop recommendations for new or revised device incentives based on the guidelines of this letter.

Ongoing Process

Metropolitan's Five-Year Plan will be updated periodically in consultation with the member agencies. The annual IRP Report Card will be used to review program performance. Conservation and other incentives will be reviewed as needed.

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.

California Environmental Quality Act (CEQA)

CEQA determination for Options #1 and #2:

The proposed actions are categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed actions involve new conservation incentives, conservation program refinements, and funding of studies and minor modifications to existing public or private facilities involving negligible or no expansion of use and no possibility of significantly impacting the physical environment. In addition, the proposed actions consist of basic data collection and resource evaluation activities, which do not result in a serious or major disturbance to an environmental resource. This may be strictly for information gathering purposes, or as part of a study leading to an action, which a public agency has not yet approved, adopted, or funded. Accordingly, the proposed actions qualify for both Class 1 and Class 6 Categorical Exemptions (Sections 15301 and 15306 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed actions qualify under two Categorical Exemptions (Class 1, Section 15301 and Class 6, Section 15306 of the State CEQA Guidelines).

Board Options/Fiscal Impacts

Option #1

Adopt the CEQA determination and

- a. Authorize implementation of the updated incentive level at \$195/AF with Metropolitan's cost share not to exceed 100 percent of product cost; the Enhanced Conservation Program at up to an incentive level of \$250/AF; the continued funding of the Innovative Conservation Program; the development of database and market research studies to support the successful implementation of the conservation program; and pursuit of market transformation to higher efficiency devices through advocating industry standards and developing broad support for legislation; and
- b. Authorize the new device incentives and transition of device retrofit programs as described in **Attachment 1** and **Attachment 2**.

Fiscal Impact: The 2005/06 and 2006/07 conservation incentive budget is expected to remain unchanged at \$15 million per year. Over the next five years, the budget could increase to \$24 million per year.

Option #2

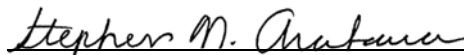
Adopt the CEQA determination and

- a. Authorize implementation of the updated incentive level of \$195/AF with Metropolitan's cost share not to exceed 100 percent of product cost; and
- b. Authorize the new device incentives and transition of device retrofit programs as described in **Attachment 1** and **Attachment 2**.

Fiscal Impact: The 2005/06 and 2006/07 conservation budget is expected to decline to \$12 million per year. Over the next five years, the budget could increase to as much as \$21 million per year.

Staff Recommendation

Option #1

	11/29/2005
Stephen N. Arakawa	Date
Manager, Water Resource Management	

	11/30/2005
Debra C. Man	Date
Interim CEO/General Manager	

Attachment 1 – Core Conservation Program – \$195/AF up to 100 Percent Cost of Device

Attachment 2 – Conservation Program Refinements

BLA #3952

CORE CONSERVATION PROGRAM
\$195/AF up to 100 Percent Cost of Device

Device/Item	Current Incentive \$154/AF up to 50 Percent Cost of Device	Proposed Incentive \$195/AF up to 100 Percent Cost of Device
Residential Toilets		
Ultra Low Flush Toilet (ULFT)	\$60	\$60 ¹
High-Efficiency Toilet (HET)	New	\$165
HET Upgrade/New Construction	New	\$30
Commercial Toilets		
Ultra Low Flush Toilet (ULFT)	\$60	\$135
High-Efficiency Toilet (HET)	New	\$165
HET Upgrade/New Construction	New	\$30
Residential High-Efficiency Clothes Washer		
HECW	\$60	\$75
Commercial High-Efficiency Clothes Washer		
HECW	\$100	\$130
Residential Indoor Surveys²		
Irrigation Evaluation (w/o timer)	\$8	\$8
Single-family survey	\$12.50	\$12.50
Irrigation Evaluation (with timer)	\$18	\$18
Weather Base Irrigation Controller (WBIC)		
Residential (less than one acre)	\$65	\$80
More than 12 stations	\$5.50 per station	\$6.50 per station
Residential (one acre or larger)	\$500/acre	\$630/acre
Commercial	\$500/acre	\$630/acre
Large Landscape		
Water Use Accountability (WUA), if MWD pays for Professional Protector Del Agua (PPDA) training	\$2.50/acre	\$2.50/acre ³
WUA, if another agency provides training	\$3.50/acre	\$3.50/acre ³
Measured Water Savings (MWS), MWD pays PPDA	\$115/acre-foot	\$156/acre-foot ⁴
MWS, if another agency provides training	\$154/acre-foot	\$195/acre-foot ⁴
Commercial Technologies		
Cooling Tower Controllers	\$500	\$625
PH Cooling Tower Controllers	New	\$1,900
Pre-Rinse Spray valves	\$50	\$60
Water Brooms	\$100	\$150
Zero Water Urinals	New	\$400
High-Efficiency Urinals	New	\$200
X-Ray Processing	\$2,000	\$3,120
Connectionless Food Steamers	New	\$485/per compartment
Industrial process Improvements	\$154/acre-foot	\$195/acre-foot ⁴

¹ ULFT incentive remains unchanged and will expire in December 2008.

² Survey programs remain unchanged pending a review of estimated savings.

³ This process water program is limited to half the project cost based on prior study.

⁴ This process water program is limited to half the project cost based on individual project costs.

Conservation Program Refinements

RESIDENTIAL PROGRAM CHANGES

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 gallons per flush. The average water savings for HETs is estimated to be 38 gallons per day (gpd) when replacing an average non-efficient toilet, and 7 gpd when replacing a ULFT. The savings are projected to continue for 20 years based on industry standard device life. The incentive is for the installation of both the bowl and the tank.

2. Residential 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 the end of 2005. The following toilet program evolution is designed to improve the water savings potential of Metropolitan's toilet incentive program and expand the use and availability of HETs in the market:

Phase 1: Fund only toilets that meet higher reliability standards, commonly known as the Supplemental Purchase Specification (SPS). The SPS, which was developed by the Los Angeles Department of Water and Power and has been adopted by the San Diego County Water Authority, would be used to establish a higher standard for ULFTs to be funded. Funding for HETs would also be provided at the higher incentive of \$195/AF. This Phase would begin July 1, 2006.

Phase 2: Provide funding only for HETs only. This Phase would begin January 1, 2009.

3. Modifications to Residential Survey Program

Metropolitan currently supports residential indoor water-use surveys conducted by the member agencies with incentives for indoor surveys, various device retrofits and outdoor surveys. Some items, including low-flow showerheads, aerators, and toilet displacement devices have reached saturation levels or are no longer considered best management practices. To streamline the Residential Survey Program, Metropolitan will stop funding individual device retrofits, 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.

LANDSCAPE PROGRAM CHANGES

1. Water Use Accountability to Allow New Development

In September 2004, the Water Use Accountability Program was approved to advance landscape water use efficiency by improving water use behavior of site participants through the development of water budgets, providing professional landscape irrigation training, and regularly communicating water use performance data. At the time of its approval, 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 on 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. Large single-family residences were not authorized under the incentive. It is recommended

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

COMMERCIAL/INDUSTRIAL/INSTITUTIONAL PROGRAM CHANGES

Proposed incentives are listed in Attachment 1 for the following:

1. New Incentives for High-Efficiency Toilets

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 gallons per flush. The average water savings for HETs is estimated to be 38 gallons per day (gpd) when replacing an average non-efficient toilet and 7 gpd when replacing a ULFT. The savings are estimated to persist for 20 years based on industry standard device life. The incentive is for the installation of both the bowl and the tank, or flush valve where appropriate.

2. Urinal Rebates

Metropolitan currently pays \$60 per conserving urinal installed, with water use of one gallon per flush or less. Staff recommends, starting July 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, such as a cartridge or a sealant, rather than water to eliminate liquid waste. 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. The incentive is for a retrofit of the fixture. For new construction, water savings would be less since code requires a 1.0 gpf urinal. Savings would be approximately 11,500 gallons per year over a 20-year life.

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. The incentive is for a retrofit of the fixture and is not for new construction.

3. pH Cooling Tower Conductivity Controllers

Commercial buildings often use cooling towers, which use water to dissipate heat, as a means of climate control. The pH cooling tower conductivity controllers continuously monitor and automatically maintain pH levels of recirculated water by activating either an acid or base chemical feed. 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. Adjusting for behavioral factors, it is recommended to use 75 percent of estimated water savings potential to establish a device incentive.

4. Connectionless Food Steamers

Restaurants often use food steamers to maintain or warm food. Recently, new water-efficient connectionless food steamers, which have no water line or sewer discharge line, have been developed. This type of food steamer is intended for small- to medium-size restaurants. Metropolitan has identified 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 81,500 gallons per year with an estimated ten-year life.