

Application for 2004 Water Use Efficiency Grant Funding

**Residential High Efficiency Clothes Washer Rebate Program
Proposal**

Metropolitan Water District of Southern California



MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Application Section A

A-15a. Water Use Efficiency Grant Application Project Information Form

Applying for:

Urban

Agricultural

1. **(Section A) Urban or Agricultural Water Use Efficiency Implementation Project**

(a) Implementation of Urban Best Management Practice, # 6

(b) Implementation of Agricultural Efficient Water Management Practice, # _____

(c) Implementation of other projects to meet California Bay-Delta Program objectives, Targeted Benefit # or Quantifiable Objective #, if applicable Residential High Efficiency Clothes Washer Rebate Program.

(d) Specify other: _____

2. **(Section B) Urban or Agricultural Research and Development; Feasibility Studies, Pilot, or Demonstration Projects; Training, Education or Public Information; Technical Assistance**

(e) Research and development, feasibility studies, pilot, or demonstration projects

(f) Training, education or public information programs with statewide application

(g) Technical assistance

(h) Other

3. Principal applicant (Organization or affiliation):

Metropolitan Water District of Southern California

4. Project Title:

Residential High Efficiency Clothes Washer Rebate Program

5. Person authorized to sign and submit proposal and contract:

Name, title Stephen N. Arakawa, Manager
Water Resources Management Group

Mailing address P. O. Box 54143
Los Angeles, CA 90054-0153

Telephone (213) 217-6052

Fax. (213) 217-6119

E-mail sarakwa@mwdh2o.com

Residential High Efficiency Clothes Washer Rebate Program
Metropolitan Water District of Southern California
Proposition 50 Water Use Efficiency Grant Application -2004

6. Contact person (if different):	Name, title.	Carlos de Leon
	Mailing address.	P. O. Box 54143
		Los Angeles, CA 90054-0153
	Telephone	(213) 217-6594
	Fax.	(213) 217-6159
	E-mail	jdeleon@mwdh2o.com

7. Grant funds requested (dollar amount): **\$5,000,000**
(from Table C-1, column VI)

8. Applicant funds pledged (dollar amount): **\$6,000,000**

9. Total project costs (dollar amount): **\$11,000,000**
(from Table C-1, column IV, row n)

10. Percent of State share requested (%): **45%**
(from Table C-1)

11. Percent of local share as match (%): **55%**
(from Table C-1)

12. Is your project locally cost effective?

Locally cost effective means that the benefits to an entity (in dollar terms) of implementing a program exceed the costs of that program within the boundaries of that entity.

(a) yes

(If yes, provide information that the project in addition to Bay-Delta benefit meets one of the following conditions: broad transferable benefits, overcome implementation barriers, or accelerate implementation.)

(b) no

Grant funds would accelerate implementation of the Program goals outlined in Section A-15c. The primary goals of the Program are:

1. Sustain momentum of retrofits in MWD's service area under the current Prop 13 grant program
2. Transition clothes washer market to the 2010 State standards for water efficiency.

Residential High Efficiency Clothes Washer Rebate Program
Metropolitan Water District of Southern California
Proposition 50 Water Use Efficiency Grant Application -2004

13. Is your project required by regulation, law or contract? If (a) Yes
no, your project is eligible. (b) No

If yes, your project may be eligible only if there will be accelerated implementation to fulfill a future requirement and is not currently required.

Provide a description of the regulation, law or contract and an explanation of why the project is not currently required.

At the present time there are no laws requiring retrofits of HECWs. However, Metropolitan complies with its obligations as signatory to the Memorandum of Understanding Regarding Urban Water Conservation in California (BMP No. 6).

- | | |
|---|---|
| 14. Duration of project (month/year to month/year): | April 2005 – April 2008
----- |
| 15. State Assembly District where the project is to be conducted: | 37, 39 – 77
----- |
| 16. State Senate District where the project is to be conducted: | 17, 19-40
----- |
| 17. Congressional district(s) where the project is to be conducted: | 23-53
----- |
| 18. County where the project is to be conducted: | Los Angeles, Ventura,
Orange, San Diego San
Bernardino, Riverside.
----- |
| 19. Location of project (longitude and latitude) | MWD service area
----- |
| 20. How many service connections in your service area (urban)? | Urban wholesale Supplier
----- |
| 21. How many acre-feet of water per year does your agency serve? | 2.4 million acre-feet
----- |

Residential High Efficiency Clothes Washer Rebate Program
Metropolitan Water District of Southern California
Proposition 50 Water Use Efficiency Grant Application -2004

22. Type of applicant (select one):

- (a) City
- (b) County
- (c) City and County
- (d) Joint Powers Authority
- (e) Public Water District
- (f) Tribe
- (g) Non Profit Organization
- (h) University, College
- (i) State Agency
- (j) Federal Agency
- (k) Other
 - (i) Investor-Owned Utility
 - (ii) Incorporated Mutual Water Co.
 - (iii) Specify _____

23. Is applicant a disadvantaged community? If 'yes' include annual median household income.

(Provide supporting documentation.)

- (a) Yes, _____ median household income
- (b) No

A-15b. Signature Page

By signing below, the official declares the following:

The truthfulness of all representations in the proposal;

The individual signing the form has the legal authority to submit the proposal on behalf of the applicant;

There is no pending litigation that may impact the financial condition of the applicant or its ability to complete the proposed project;

The individual signing the form read and understood the conflict of interest and confidentiality section and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant;

The applicant will comply with all terms and conditions identified in this PSP if selected for funding; and

The applicant has legal authority to enter into a contract with the State.

Signature

Name and title

Date

A-15c. Statement of Work, Section 1: Relevance and Importance (Section A projects: 10 points)

The Metropolitan Water District of Southern California (Metropolitan) is a regional water wholesaler providing imported water service to 26 member agencies and more than 18 million residents over a 5,200 square mile service area that includes Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura counties. Metropolitan relies on State Water Project deliveries from the Bay/Delta for approximately one-third of the region's water supplies. To meet increasing water demands, Metropolitan and its member agencies pursue a multitude of opportunities to implement water demand management projects. A recently introduced technology in the American marketplace is the high-efficiency clothes washer (HECW). Water savings for HECWs is estimated between 4,000 and 9,000 gallons annually per machine, compared to conventional washers. Energy savings are also a significant feature of these HECWs as well.

Program goals and objectives:

- Transition clothes washer market towards year 2010 State standards.
- Assist clothes washer industry in transitioning to year 2010 State standards.
- Successfully obtain a federal waiver to enact into law the State clothes washer water efficiency standards for year 2010.
- Sustain the momentum and success of the customer response and retrofits under the current Proposition 13 grant program.
- Reduce demand for imported water including Bay-Delta supplies.
- Achieve year 2000 Regional Urban Water Management Plan objectives.
- Meet the 2025 conservation goal for Metropolitan's Integrated Water Resources Plan.
- Comply with obligations as signatory to the Memorandum of Understanding Regarding Urban Water Conservation in California in meeting Best Management Practice No. 6.

In February 2004, Metropolitan executed a \$2.5 million grant contract with the Department of Water Resources (DWR) to provide funding for the HECW program under Proposition 13. The grant assisted Metropolitan in increasing its washer rebate from \$35 to \$110. Program response was overwhelming and far exceeded staff expectations with average retrofit activity increasing from 2,800 units per month to 4,300 units per month between May and August 2004. To date, the program has exhausted \$2.14 million (86%) of the grant within the first 10 months of implementation (December 2004).

In November 2004, Metropolitan's Board approved increasing the HECW incentive from \$35 to \$60 per unit, based on clothes washer unit savings of 9,000 gallons per year. The increased incentive reflects water savings associated with washers of Water Factor (WF) 6.0 or less, which represents the amount of water

Residential High Efficiency Clothes Washer Rebate Program
Metropolitan Water District of Southern California
Proposition 50 Water Use Efficiency Grant Application -2004

used to clean a standard load of laundry. The Board also approved temporary bridge funding after grant funds are exhausted to maintain the current incentive amount provided as a result of Prop. 13 grant funding. This extension is through December 2005, when it is anticipated that Metropolitan would receive grant funding under this Proposition 50 application, which is vital to transitioning the market to year 2010 State water efficiency standards.

Metropolitan is requesting \$5 million in Water Use Efficiency Grant funding to sustain momentum of the Proposition 13 HECW program and provide member agencies a \$110 incentive. Customers would be offered a minimum rebate of \$100 per retrofit and \$10 per unit for marketing. If approved, Metropolitan would provide a total of 100,000 rebates to residential customers through its participating member agencies. Rebates would be issued over the three-year period of the grant. Metropolitan would contribute matching funds of \$5 million for customer rebates (\$50 per unit) and \$1 million for marketing (\$10 per unit) for a total of \$6 million. The requested \$5 million in grant funding would be used to provide customers an additional \$50 per unit for a total project cost of \$11 million. The project would achieve a direct water savings of more than 36,825 acre-feet of water for 100,000 units over their functional life.

The funding request is composed of the following elements:

	Customer rebate	Total incentive value (@ 100,000 units)	Member agency promotional assistance (\$10 per unit)	Totals (%)
Prop. 50	\$50	\$5,000,000		\$5,000,000 (45%)
Met	\$50	\$5,000,000	\$1,000,000	\$6,000,000 (55%)
Total	\$100	\$10,000,000	\$1,000,000	\$11,000,000 (100%)

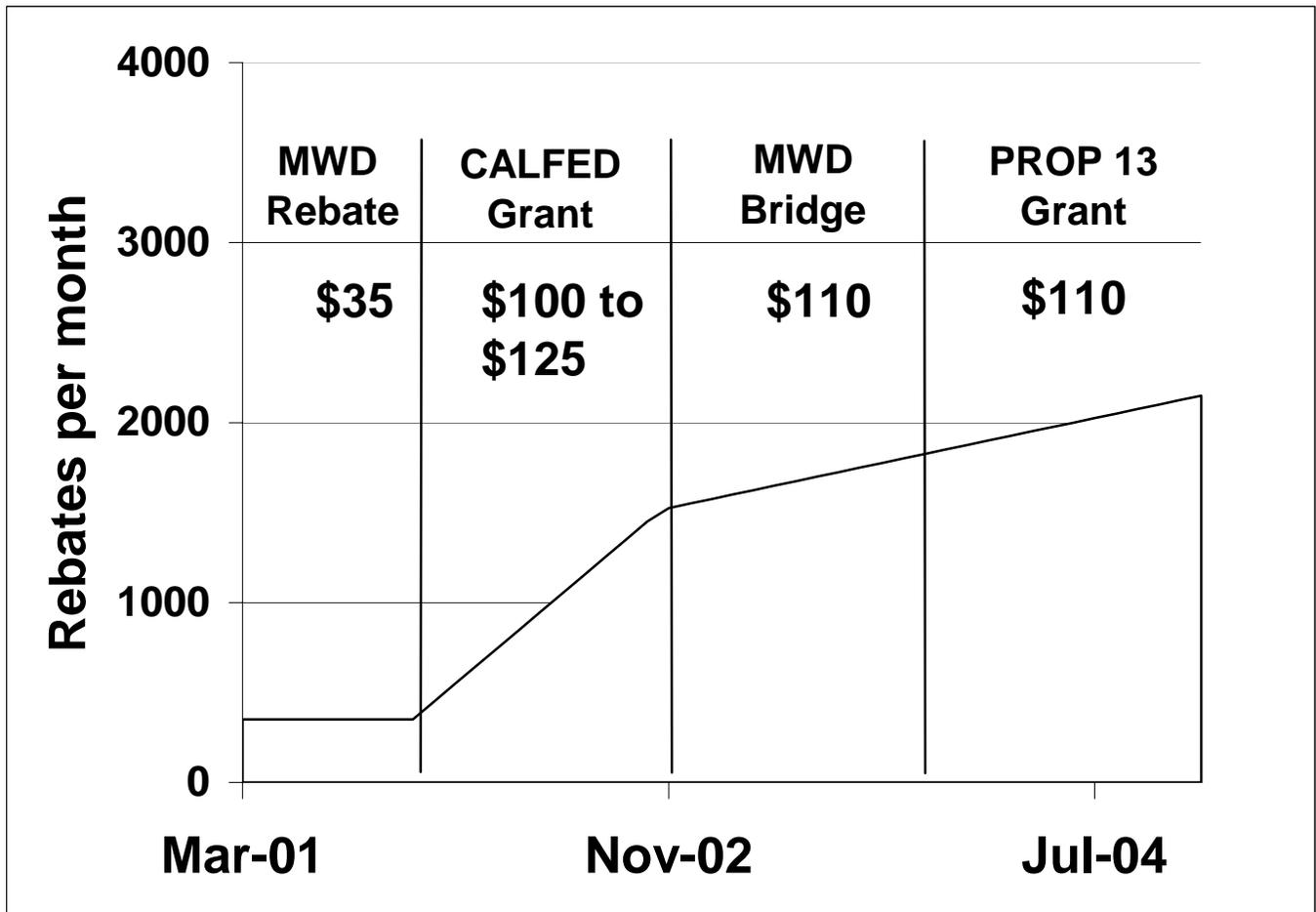
The need for this project is critical to implementation of proposed year 2010 State clothes washer efficiency standards and to continue the success of Metropolitan's HECW program. Without outside funding, most of Metropolitan's 26 member agencies will not participate in Metropolitan's HECW program, because most of them do not have the funds and/or resources to participate. Past programs have shown that the success of the HECW program is directly related to the rebate amount offered.

This program will help achieve targets for resource development beyond Metropolitan's Integrated Resource Plan, which was updated in July 2004. Over the long-term, this effort helps meet CALFED water supply reliability objectives by reducing Southern California's residential water demand growth rate, resulting

**Residential High Efficiency Clothes Washer Rebate Program
Metropolitan Water District of Southern California
Proposition 50 Water Use Efficiency Grant Application -2004**

in more effective management of water resources and reduced pressure on water and energy distribution facilities. This program would influence purchase decisions and motivate strong public response through rebates for high efficiency clothes washer installations, reduce wastewater discharge to local sewerage systems and coastal estuaries, and result in withdrawals from local storage facilities at a lower rate. Several benefits accrue directly and indirectly to CALFED and the Bay/Delta estuary or locally, within the State Water Project watershed, in a manner that is consistent with CALFED objectives

High Clothes Washer Program Performance



Graph indicates average monthly rebate activity.

A-15c. Statement of Work, Section 2

Preliminary Plans, Specifications, and Certification Statements (for construction projects only).

Not applicable for this project.

California Environmental Quality Act and National Policy Act

The proposed activity is not defined as a project under CEQA because it involves continuing administrative activities, such as purchases for supplies, general policy and procedure making (Section 15378(b)(2) of the State CEQA Guidelines). In addition, the proposed activity is not subject to CEQA because it involves other government fiscal activities, which do not involve any commitment to any specific project, which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines).

A-15d. Statement of Work, Section 2: Technical/Scientific Merit, Feasibility (Section A projects: 20 points)

1. Receipt of the requested grant funds will allow this successful program to continue with minimal interruption. Contracts and program mechanics are already in-place, and momentum is established. Member agencies will be able to rapidly implement their HECW programs to target increased water savings with more efficient machines and drive market towards 2010 State clothes washer efficiency standards.

2. Tasks, schedule and deliverables.

	Task	Month Due*	Deliverable
1	Amend contracts for grant funding	1	Amended contracts in-place
2	Develop promotional strategy	3	Advertisement plan
3	Add non-participating member agencies to the program	On-going	Addition of member agencies previously not participating
4	Implement program	5, 17, 26	Placed advertisements
5	Assess performance	On-going	Documentation of findings
6	Provide Quarterly Reports	3,6,9,12...36	Quarterly Reports

*the number of months after receipt of grant funds

A-15e. Statement of Work, Section 3: Monitoring and Assessment (Section A projects: 15 points)

Monitoring and assessing the program's progress will be accomplished by procedures that have been established in Metropolitan's HECW Program. To gather project data and evaluate success of the project, Member agencies are requested to submit the following information with their monthly invoices:

- Rebate Activity data (an electronic database) that provides customer, resident, washer, rebate processing, demographic, and marketing information.

For this grant program, member agencies will be required to provide the water factor for each unit, because Metropolitan will only provide reimbursement for HECWs with a water factor of 6.0 or less.

- Monthly activity report that member agencies sign certifying the quantity of HECW rebates, unit costs, number of verifications, number of inspections, and a narrative describing activities performed during the reporting period.

For this grant program, member agencies will be required to certify that all units rebated will have a water factor of 6.0 or less.

- Member agencies are responsible for verification, however Metropolitan may perform random inspections of HECW installations.
- Customer satisfaction surveys will be completed to assess the success of the program from the customer's perspective. The results of those surveys will also be used as promotional testimony.
- Metropolitan and its member agencies quantify the number of rebates issued to conduct water savings evaluations (based on washer savings of 8,000 gallons per year, which translates to washers with a WF = 6.0). This will be done as part of Metropolitan's ongoing effort to substantiate the water savings generated from the financial investments it makes.
- Metropolitan will provide program information and data to DWR as part of its quarterly progress reports and final report.

**A-15f. Qualifications of the Applicants and Cooperators
(Section A projects: 5 points)**

1. Andy Hui – Regional Supply Unit Manager for the Water Resource Management Group. Mr. Hui has 19 years experience working with local resource development projects including recycled water, groundwater recovery, water conservation and seawater desalination.

Alice Webb – Senior Resource Specialist. Ms. Webb has 14 years experience working on various water conservation programs and provides oversight of various programs including PDA.

Carlos de Leon, P.E. – Resource Specialist. Mr. de Leon is the Project Manager for Metropolitan’s High Efficiency Clothes Washer Program with 20 years experience in public works engineering, water resource and conservation projects.

2. Metropolitan’s member agencies will be the external cooperators used for this project. Metropolitan offers financial incentives to all 26-member agencies to co-fund their HECW rebate programs. Under the current Proposition 13 program 23 member agencies are participating and the remaining 3 member agencies may participate in the near future. They tend to be the smaller agencies that may have trouble allocating staff to implement the program. In addition to the water agencies, Metropolitan will explore means of working cooperatively with private energy suppliers, such as Southern California Edison, San Diego Gas & Electric, Southern California Gas Company and various sanitation districts.
3. Metropolitan participated in the following water use efficiency grant projects:
 - \$925,000 CALFED (SB 23) funding under the Urban Water Conservation. Metropolitan exhausted the grant funds in 10 months, which provided for 10,000 retrofits to Metropolitan’s service area.
 - \$2,500,000 Proposition 13 funding under the Urban Water Conservation Grant Program. Metropolitan has exhausted \$1.95 million (78%) of the grant funds between April and November 2004, which funds 33,333 retrofits to Metropolitan’s service area.
4. If applicant is a disadvantaged community, provide geographic scope and the source of information documenting annual median household income.

Not applicable.

**A-15g. Outreach, Community Involvement, and Acceptance
(Section A projects: 5 points)**

Metropolitan has met with and discussed this project with member agencies and their retail agencies. Both groups strongly support the project. In addition, Metropolitan's member agencies have long and successful track record of using local community organizations in the implementation of their conservation programs. There continues to be a commitment to include local organizations in programs such as these, although quantification is not currently available.

Metropolitan's position on numerous boards and committees will be used to include a variety of potential supporters. Watershed councils, environmental non-governmental organizations, business roundtables, chambers of commerce are interested organizations that have expressed support for the program.

Present HECW rebate programs are well received by the buying public and the retail outlets. Energy utilities welcome water agencies' operation of these programs and their added help in promotion and outreach will further boost participation.

A-15h. Innovation (Section A projects: 10 points)

This project will continue to utilize new innovative technologies of High Efficiency Clothes Washers. Recent technological innovations have resulted in front load HECWs with higher water efficiency levels as opposed to conventional top load washers. Manufacturers are now making HECWs with a Water Factor (number of gallons needed for each cubic foot of laundry) as low as 4.0. As a result, energy costs are also reduced significantly. HECWs save energy because most of the energy needed for clothes washing goes to heating the water.

In addition to saving water, HECWs can save up to 60 percent of the energy used with conventional washers. In light of the power situation in California, the installation of HECWs will be an important means of reducing demand for both electricity and natural gas. By using up to 40 percent less water than conventional clothes washers, HECWs require less heated water for washing. HECWs also have much higher spin speeds than conventional washers, laundry from HECWs contains markedly lower moisture content than laundry from conventional washers. This results in less energy required to dry the wash loads.

A-15i. Benefits and Costs (Section A projects: 35 points)

This program's objective is to implement a highly effective regional demand management initiative within the State Water Project watershed, consistent with CALFED water use efficiency objectives.

Benefits Accruing to the Bay-Delta:

1. Avoided Future Withdrawals from the Bay-Delta System: Metropolitan's implementation of this and other water use efficiency programs either offsets or defers State Water Project deliveries from the Bay-Delta to meet urban water demands.
2. Participation in Flexible Storage Programs: In the past, Metropolitan has participated in statewide flexible storage programs that support CALFED's environmental restoration objectives (e.g. Environmental Water Account). In general, southern California's ability to participate in this type of program is a function of storage and distribution system operational flexibility. Growing demands over time may erode system flexibility, potentially reducing our ability to participate in such programs, which are linked to direct environmental benefits within the Bay-Delta estuary. Proposition 50 grant awards for Metropolitan's proposed water conservation programs would greatly assist ongoing regional efforts to preserve system flexibility, strengthening our ability to continue flexible storage programs into the future.
3. Innovation and Knowledge Transfer: Metropolitan continues to play a leadership role in the development and implementation of innovative water use efficiency programs. Existing Metropolitan programs cover a wide range of conservation initiatives, from financial incentives for water efficient appliances to educational resources, such as our *Protector del Agua* program, which provides classroom instruction to promote outdoor water conservation among professionals and homeowners. This program would achieve higher-water savings than standard clothes washer programs, which could be transferable elsewhere in the State.

Benefits to Southern California Watersheds:

1. Water Efficient Appliances and Fixtures: Under this program, Metropolitan is promoting the latest water-efficient technology for the home, providing financial incentives for high efficiency clothes washers. It is generally acknowledged that indoor water conservation programs yield significant direct benefits to the region's wastewater sector and coastal watersheds through lower discharge volumes.
2. Other Public and Fiscal Benefits: This program warrants consideration based on potentially large cost savings to public agencies and ratepayers by reducing requirements for future capital improvements and water importation.

A-15i. Benefits and Costs (Continued)

Justification for Metropolitan's conservation funding rate

The Metropolitan Water District of Southern California funds conservation programs at the rate of \$154 per acre-foot directly and through its member agencies as part of the implementation of Southern California's Integrated Water Resources Plan (IRP). The IRP established resource targets based on a number of criteria including cost effectiveness. Through the IRP, cost effectiveness for local resources including conservation was determined to be up to \$250 per acre-foot of water, when the payment is made at the time of water production. Since most conservation programs are funded through upfront payments and the savings accrues over time, the \$250 value is present valued at 6% for the typical life of a conservation measure—twenty years. The present value of Metropolitan's \$250 per acre-foot value of local resources is approximately \$154 per acre-foot. In addition to this direct incentive, Metropolitan pays overhead through staff management and marketing estimated at about 10%. Therefore, the local value of conserved water paid through Metropolitan conservation programs is approximately \$169.40 (\$154 x 110%) per acre-foot.

Project Budget

1. Project budget items from table C-1, by funding entity:

	b. Planning / Design / Engineering	k. Materials / Installation	n. Totals
Proposition 50		\$5,000,000	\$5,000,000
Metropolitan	\$1,000,000	\$5,000,000	\$6,000,000
Total	\$1,000,000	\$10,000,000	\$11,000,000

- a. Metropolitan's promotional efforts are part of the program's planning and design and are necessary to create awareness of the availability of the rebates. The program's success relies on broad dissemination of the information. Promotional efforts will consist of the following types of outreach: advertisements, point-of-purchase materials, manufacturer tie-ins, bill stuffers, and the like. Metropolitan's in-kind funding will assist member agencies with their marketing efforts (100,000 units x \$10 per unit = \$1,000,000).
- b. The rebate constitutes an installation subsidy, and so is budgeted as such 100,000 units x \$100 = \$10,000,000

Residential High Efficiency Clothes Washer Rebate Program
Metropolitan Water District of Southern California
Proposition 50 Water Use Efficiency Grant Application -2004

2. Metropolitan is providing cost sharing in the amount of \$6,000,000 (55%). In November 2004, Metropolitan increased its base incentive from \$35 to \$60 per unit. This increased rebate contribution of \$60 per HECW is budgeted as part of the Conservation Credits Program. Metropolitan's funding for Conservation Credits will continue through the duration of the program. Metropolitan's Conservation Credits expenditures in recent years have averaged more than \$10 million per year.

Member agencies will receive \$10 per unit for promotional costs, which will be coordinated with the participating member agencies. It will be used either locally by them, or, if they request, regionally as implemented through the External Affairs Group within Metropolitan. Promotional efforts may include advertisements, point-of-purchase materials, manufacturer tie-ins, bill stuffers, website enhancements and other outreach ideas.

Project Budget (Continued)

3. Assessment of Costs and Benefits (see table C-9)

a. Assumptions

- Metropolitan benefit is \$154/AF+10 % for avoided labor cost = \$169.4/AF.
- 100,000 HECWs will be installed over 3 years, based on average rate of 2,800 rebates per month.
- Each machine represents 0.02455 AFY savings
- Machine life, and consequently the duration of savings, is 15 years

b. Benefits and costs in 2005 dollars, not discounted

- Benefits = \$6,238,155
- Costs = \$11,000,000

c. Benefits and Costs, by project entity

Entity	Benefit	Cost
Quantifiable Elements		
• Metropolitan	\$3,803,571*	\$6,000,000
• Member Agencies	\$3,803,571*	\$0
Non-quantified elements		
• Metropolitan	Expanded program	Marketing
• Member Agencies	Added value to customer	Marketing
• HECW purchasers	Rebate and utility savings	Uncovered cost difference
• CALFED	Reduced Bay-Delta demand	State administration of grants

(See table C-9)

A-15i. Benefits and Costs (Continued)

Project Net Water Savings

Total Net Project Water Supply Benefit – The total project water savings over the life 15-year life of 100,000 HECWs and their value are based on the table below (see table C-9 for analysis):

Water Savings/Unit (15 years)	# Units	Total Benefit		Present Value of Total Benefit
Acre-Feet / HECW	HECWs	Acre-Feet	\$ ²	\$ (2005) ³
0.368 ¹	100,000	36,825	\$6,238,155	\$3,803,571

1. Based on 8,000 gallons annual water savings per HECW and a 15-year machine life.

Savings estimates range from 5,250 gpy (CUWCC paper prepared by M. Cubed, March 20, 2001 and stated as a conservative estimate) to 7,000 gpy (Appliance Standards Awareness Project, *National Clothes Washer Standard: FAQ*, no date), to as much as 8,550 gpy (*Primer on Laundry Efficiency*, A P.O.W.E.R. Staff Report, 1993).

Machine life is generally estimated at 14-years, based on Appliance Magazine, *Appliance Life Expectancy/Replacement Picture*, September 1997. The *Bern Clothes Washer Study, Final Report*, Oak Ridge National Laboratory, March 1998, indicates that, "...the average clothes washer in the U.S. would be a little older than what a typical lifetime estimate would otherwise suggest." Page 12. The lifetime of the machine was adjusted up by one year to 15-years to accommodate this expectation.

2. Based on a benefit of \$169.4/AF (\$154/AF + 10% avoided labor cost), level for 15 years.
3. Based on a discount rate of 6% and 15 years of savings per HECW, beginning in Year 2. For more details, see attached table C-9

Project Benefits/Cost Ratios

Benefit/Cost Ratio based Project Present worth Equivalent

Present value project benefits are based on a discount rate of 6% and 15 years of savings per HECW, beginning in year 2 (See attached table C-9 for details).

- Benefits = \$3,803,571 (in 2005 dollars)

Present value project costs are based on a discount rate of 6% over a total of 3 years (See attached table C-9 for details).

- Cost = \$10,358,562 (in 2005 dollars)

$$\text{Benefit/Cost (2003 dollars)} = \$3,803,571 / \$10,358,562 = 0.367$$

Benefit/Cost Ratio based on Annual Benefits and Costs

Benefit /cost ratio by dividing the annual capital costs by the total net annual water supply benefit (As shown in the Table C-9)

Project Benefits (\$) (1)	\$415,877
Project Costs (\$) (2)	\$1,133,000
Benefit/Cost Ratio	0.367

(1) From Table C-9

(2) From Table C-1

APPENDIX C: Project Costs and Benefits Tables

Table C- 1: Project Implementation Costs (Budget)

Table C- 2: Annual Operations and Maintenance Costs

Table C- 3: Total Annual Project Costs

Table C-4: Capital Recovery Factor

Table C- 5: Project Annual Physical Benefits (Quantitative and Qualitative Description of Benefits)

Table C- 6: Project Annual Local Monetary Benefits

Table C- 7: Project Local Monetary Benefits and Project Costs

Table C- 8: Applicant's Cost Share and Description

Table C- 9: Project Present Value Analysis of Benefits and Costs

Applicant:

THE TABLES ARE FORMATTED WITH FORMULAS: **FILL IN THE SHADED AREAS ONLY**

Section A projects must complete Life of investment, column VII and Capital Recovery Factor Column VIII. Do not use 0.

Table C-1: Project Costs (Budget) in Dollars

	Category	Project Costs	Contingency % (ex. 5 or 10)	Project Cost + Contingency	Applicant Share	State Share Grant	Life of investment (years)	Capital Recovery Factor	Annualized Costs
		\$		\$	\$	\$			\$
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)	(IX)
	Administration ¹								
	Salaries, wages	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
	Fringe benefits	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
	Supplies	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
	Equipment	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
	Consulting	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
	Travel	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
	Other	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(a)	Total Administration Costs	\$0		\$0	\$0	\$0			\$0
(b)	Planning/Design/Engineering	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(c)	Equipment Purchases/Rentals/Rebates/Vouchers	\$0	0	\$0	\$0	\$0	10	0.0000	\$0
(d)	Materials/Installation/Implementation	\$10,000,000	0	\$10,000,000	\$5,000,000	\$5,000,000	15	0.1030	\$1,030,000
(e)	Verification	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(f)	Project Legal/License Fees	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(g)	Structures	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(h)	Land Purchase/Easement	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(i)	Environmental Compliance/Mitigation/Enhancement	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(j)	Construction	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(k)	Program marketing	\$1,000,000	0	\$1,000,000	\$1,000,000	\$0	15	0.1030	\$103,000
(l)	Monitoring and Assessment	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(m)	Report Preparation	\$0	0	\$0	\$0	\$0	0	0.0000	\$0
(n)	TOTAL	\$11,000,000		\$11,000,000	\$6,000,000	\$5,000,000			\$1,133,000
(o)	Cost Share - Percentage				55	45			

1- excludes administration O&M.

Applicant:

THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY

Table C-2: Annual Operations and Maintenance Costs

Operations (1) (I)	Maintenance (II)	Other (III)	Total (IV) (I + II + III)
\$0	\$0	\$0	\$0

(1) Include annual O & M administration costs here.

Table C-3: Total Annual Project Costs

Annual Project Costs (1) (I)	Annual O&M Costs (2) (II)	Total Annual Project Costs (III) (I + II)
\$1,133,000	\$0	\$1,133,000

(1) From Table C-1, row (n) column (IX)

(2) From Table C-2, column (IV)

Table C- 4: Capital Recovery Table (1)

Life of Project (in years)	Capital Recovery Factor
1	1.0600
2	0.5454
3	0.3741
4	0.2886
5	0.2374
6	0.2034
7	0.1791
8	0.1610
9	0.1470
10	0.1359
11	0.1268
12	0.1193
13	0.1130
14	0.1076
15	0.1030
16	0.0990
17	0.0954
18	0.0924
19	0.0896
20	0.0872
21	0.0850
22	0.0830
23	0.0813
24	0.0797
25	0.0782
26	0.0769
27	0.0757
28	0.0746
29	0.0736
30	0.0726
31	0.0718
32	0.0710
33	0.0703
34	0.0696
35	0.0690
36	0.0684
37	0.0679
38	0.0674
39	0.0669
40	0.0665
41	0.0661
42	0.0657
43	0.0653
44	0.0650
45	0.0647
46	0.0644
47	0.0641
48	0.0639
49	0.0637
50	0.0634

(1) Based on 6% discount rate.

Applicant:

THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY

Table C-5 Project Annual Physical Benefits (Quantitative and Qualitative Description of Benefits)

	Qualitative Description - Required of all applicants ¹				Quantitative Benefits - where data are available ²
	Description of physical benefits (in-stream flow and timing, water quantity and water quality) for:	Time pattern and Location of Benefit	Project Life: Duration of Benefits	State Why Project Bay Delta benefit is Direct ³ Indirect ⁴ or Both	Quantified Benefits (in-stream flow and timing, water quantity and water quality)
Bay Delta	<p>1) Avoided Future Withdrawals from the Bay-Delta System: Offsetting or deferring deliveries of increased quantities of State Water Project supplies from the Bay-Delta to meet growing demands; 2) Ability to Participate in Flexible Storage Programs: help preserve southern California's ability to continue supporting CALFED's environmental restoration objectives through participation in flexible storage programs into the future; and 3) Innovation and Transferable Knowledge Base: New programs pioneered by Metropolitan under this grant are likely to serve as a transferable reference for future implementation elsewhere in the State.</p>	<p>1 & 2) Implementation of the proposed demand management programs would allow the projected increase in SWP supply availability through Banks pumping plant to bolster operational flexibility in southern California and statewide. This and other demand management interventions by Metropolitan are designed to manage growing demands in a manner that protects the region's operational flexibility. Without such water conservation projects, any new SWP supplies would flow rapidly through the system to meet end use demands, eroding storage flexibility - particularly during seasonally dry periods when peak demands are experienced; 3) The proposed project would require three years from the date of contract execution for completion. While Metropolitan would disseminate periodic status reports on implementation a final report would not be available until project completion.</p>	15 Years	<p>While the benefits associated with these projects are reported by Metropolitan as "indirect" Bay-Delta benefits, we believe the Department is in a better position to assess whether the linkages established in this proposal between demand management, regional storage flexibility, supply reliability and ecosystem restoration constitute a "direct" benefit to the Bay-Delta system.</p>	0

¹ The qualitative benefits should be provided in a narrative description. Use additional sheet.

² Direct benefits are project outcomes that contribute to a CALFED objective within the Bay-Delta system during the life of the project.

³ Indirect benefits are project outcomes that help to reduce dependency on the Bay-Delta system. Indirect benefits may be realized over time.

⁴ The project benefits that can be quantified (i.e. volume of water saved or mass of constituents reduced) should be provided.

Applica

THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY

Table C-5 Project Annual Physical Benefits (Quantitative and Qualitative Description of Benefits)

	Qualitative Description - Required of all applicants ¹				Quantitative Benefits - where data are available ²
	Description of physical benefits (in-stream flow and timing, water quantity and water quality) for:	Time pattern and Location of Benefit	Project Life: Duration of Benefits	State Why Project Bay Delta benefit is Direct ³ Indirect ⁴ or Both	Quantified Benefits (in-stream flow and timing, water quantity and water quality)
Local	<p>1) Water Efficient Appliances and Fixtures: the latest water-efficient technology for the home is likely to yield significant direct benefits to the wastewater sector and coastal watersheds through lower discharge volumes; 2) State-Of-The-Art Irrigation Systems and Reduced Runoff: California Friendly projects contribute to reducing urban runoff as part of a voluntary, incentive based approach; 3) Other Public and Fiscal Benefits: Great potential for delivering multiple benefits. Large-scale water savings likely to result in commensurate cost savings to public agencies and ratepayers for deferred and avoided costs associated with potable water and wastewater.</p>	<p>1) High Efficiency Clothes Washers featuring a water factor of 6.0.</p>	15	Not applicable.	2455 AFY

¹ The qualitative benefits should be provided in a narrative description. Use additional sheet.

² Direct benefits are project outcomes that contribute to a CALFED objective within the Bay-Delta system during the life of the project.

³ Indirect benefits are project outcomes that help to reduce dependency on the Bay-Delta system. Indirect benefits may be realized over time.

⁴ The project benefits that can be quantified (i.e. volume of water saved or mass of constituents reduced) should be provided.

Applicant:

THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY

Table C-6 Project Annual Local Monetary Benefits

ANNUAL LOCAL BENEFITS	ANNUAL QUANTITY (AFY)	COST OF WATER (\$/AF)	ANNUAL MONETARY BENEFITS (\$/AF)
(a) Avoided Water Supply Costs (Current or Future Source)	2,455	\$154.0	\$378,070
(b) Avoided Energy Costs	0		\$0
(c) Avoided Waste Water Treatment Costs	0		\$0
(d) Avoided Labor Costs	2,455	\$15.4	\$37,807
(e) Other (describe)	0		\$0
(f) Total [(a) + (b) + (c) + (d) + (e)]			\$415,877

Table C-7 Project Local Monetary Benefits and Project Costs

(a) Total Annual Monetary Benefits [(Table C-6, row (f))	\$415,877
(b) Total Annual Project Costs (Table C-3, column III)	\$1,133,000

Table C-8 Applicant's Cost Share and Description

Applicant's cost share %: (from Table C-1, row o, column V)	55
Describe how the cost share (based on relative balance between Bay-Delta and Local Benefits) is derived. (See Section A-7 and Table C-8 on page 20 for project description).	

Table C-9 - Project Present Value Benefits and Costs

Residential High-Efficiency Clothes Washer Rebates

Calculation of present value benefits (2005 dollars)

Savings = 8,000 gallons/year/HECW = 0.02455 AFY

using 6%

<u>Grant Year</u>	<u>HECWs installed</u>	<u>[0.02455 AFY/HECW] Annual Savings of HECWs Installed (AFY)</u>	<u>Savings stream in Successive Years (AFY)</u>	<u>Benefits of Savings at \$169.4/AF* (\$)</u>	<u>Year of Water Savings Realization</u>	<u>Non-discounted Benefit Stream (\$)</u>	<u>Discounted Benefit Stream (\$)</u>
1	30,000	736.50	736.50	\$ 124,763	1		
2	35,000	859.25	1595.75	\$ 270,320	2	\$ 124,763	\$ 117,701
3	35,000	859.25	2455.00	\$ 415,877	3	\$ 270,320	\$ 240,584
			2455.00	\$ 415,877	4	\$ 415,877	\$ 349,178
			2455.00	\$ 415,877	5	\$ 415,877	\$ 329,414
			2455.00	\$ 415,877	6	\$ 415,877	\$ 310,767
			2455.00	\$ 415,877	7	\$ 415,877	\$ 293,177
			2455.00	\$ 415,877	8	\$ 415,877	\$ 276,582
			2455.00	\$ 415,877	9	\$ 415,877	\$ 260,926
			2455.00	\$ 415,877	10	\$ 415,877	\$ 246,157
			2455.00	\$ 415,877	11	\$ 415,877	\$ 232,224
			2455.00	\$ 415,877	12	\$ 415,877	\$ 219,079
			2455.00	\$ 415,877	13	\$ 415,877	\$ 206,678
			2455.00	\$ 415,877	14	\$ 415,877	\$ 194,979
			2455.00	\$ 415,877	15	\$ 415,877	\$ 183,943
			1718.50	\$ 291,114	16	\$ 415,877	\$ 173,531
			859.25	\$ 145,557	17	\$ 291,114	\$ 114,596
			0.00	\$ -	18	\$ 145,557	\$ 54,055
			36,825.0			\$ 6,238,155	\$ 3,803,571

*\$169.40/AF = \$154/AF + \$15.4/AF (10% for avoided labor cost)

Calculation of present value costs (2005 dollars)

at 6%

<u>Grant Year</u>	<u>No. of HECWs installed</u>	<u>Non-discounted Associated Cost (\$110/unit)</u>	<u>Discounted Cost Stream</u>
1	30,000	\$ 3,300,000	\$ 3,300,000
2	35,000	\$ 3,850,000	\$ 3,632,075
3	35,000	\$ 3,850,000	\$ 3,426,486
		\$ 11,000,000	\$ 10,358,562