

F1-309



California Urban Water Conservation Council

APPLICATION FOR CATEGORY III FUNDING

July 28, 1997

H-Axis or High-performance Clothes Washer Rebate Program

JUL 28 1997

I. Executive Summary

a. Project Title and Applicant Name:

H-Axis or High-performance Clothes Washer Rebate Program; presented by the California Urban Water Conservation Council (CUWCC).

b. Project Description and Primary Biological/Ecological Objectives:

H-Axis or High-performance Clothes Washers represent the "next frontier" of water conservation in urban areas, and the long-term potential water savings and water quality improvements from regions dependent on the Delta are substantial.

Category III funds would be used to provide financial incentives to retail customer (rebates) to purchase efficient, horizontal axis washing machines in lieu of higher water and detergent using traditional vertical axis machines. Estimated water savings are approximately 102,000 gallons and reduction of approximately 140 pounds of total dissolved solids (TDS) discharged to the Delta over the lifetime of each machine. It is recognized that the higher cost of horizontal axis washing machines is an impediment to consumers making purchases which benefit the environment. A rebate program will provide incentive resulting in additional choices in favor of H-axis machines, resulting in greater water conservation, and salinity reductions (through significantly lower detergent uses upstream) in the Delta than would otherwise occur.

The CUWCC would administrate this proposed rebate program by creating a RFP process for California water purveyors to provide customer incentives, marketing and consumer education for supporting high-performance clothes washers to promote cost-effective water, energy, and wastewater conservation. Primary benefits are 1) directly lowering conflict between beneficial uses of bay delta waters through water conservation, allowing proportionally more water to be dedicated to environmental needs and 2) by lowering salinity inputs from upstream sources, less pressure will be put on existing water supplies to maintain delta salinity isohalines (x2) as a result from lower salinity water being provided upstream.

c. Approach/Tasks/Schedule:

The CUWCC would create a new grants sub-committee to develop the RFP criteria by which water purveyors could submit proposals to obtain funding for their H-Axis programs. It is anticipated the CUWCC would have the RFP's available within six weeks of notification of funding from Category III.

In order for any water agency to be awarded any Category III funds administered by CUWCC, that agency must: 1) be a signatory to the CUWCC MOU; 2) be in compliance with the CUWCC MOU; 3) cost share at least 25% of the rebate program; 4) concurrently implement an H-Axis consumer education program; and 5) limits participation to California residents at geographical locations drawing from the Bay/Delta watershed.

The CUWCC will create a detailed scoring system for prospective proposals submitted by eligible signatories. Special emphasis will be used throughout the scoring process in the following areas: 1) the geographical locations that most directly impact the Bay/Delta; 2) discharges to wastewater treatment facilities; 3) coordination of rebate funding with other utilities, agencies, organizations or manufacturers. It is anticipated that the CUWCC would be prepared to score proposals and award funding within three months of proposal submission.

d. Justification for Project and Funding by CALFED:

The CalFed Water Use Efficiency Program (WUEP) is striving for more water conservation.

The CUWCC is making every effort to be responsive to the WUEP and as a result has undertaken an extensive updating and restructuring of its Best Management Practices (BMPs) for urban water conservation. The BMP revisions are scheduled for adoption in September 97. Due to the substantial water savings potential, the CUWCC has selected H-Axis Clothes Washer Machine Rebates as a new "core" BMP requiring water agencies to provide rebates when energy providers are doing so.

This H-Axis rebate program will provide direct benefit to the Bay/Delta by reducing urban water demand through water conservation and improving water quality through wastewater conservation and reduction of the total dissolved solids load (salinity) to the Bay-Delta. Category III funds combined with local agencies' and energy suppliers' funds will increase the number of H-Axis machines in the watershed.

e. Budget Costs and Third Party Impacts:

The CUWCC is requesting \$5,000,000.00 for implementation of the H-Axis rebate program which will be implemented over a three year period. The grant request was calculated 1) Assuming there are 12 million Californians in single family homes or homes with their own clothes washers; 2) four person per home = 3,000,000 washing machines; 3) approximately 20 year life cycle per washing machine; 4) $3,000,000/20 = 150,000$ washers sold per year; 5) 10% switch to H-Axis by virtue of rebate program = 15,000 rebates @ \$100.00 (3 years) = \$4,500,000.00; 6) 10% administrative overhead = \$500,000.00; 7) total \$5,000,000.00. If it is desired to restrict Category III funds to participation in the rebates to areas draining directly into the Bay/Delta, a reduced funding level of 1 to 2 million dollars would be sufficient.

No negative third party impacts are expected.

f. Applicant Qualifications:

The CUWCC is a stable organization of more than 220 signatories and growing each year. The CUWCC Administrative office is located in Sacramento. The CUWCC is making significant technical and management contributions to the water conservation field through development and revision of the BMPs. The challenge for the CUWCC is to continue moving the BMPs forward in a dynamic water management environment under its strategic plan.

g. Monitoring and Data Evaluation:

The CUWCC Grants Subcommittee will thoroughly review applications for funding. Contracts with water agencies will define reporting requirements and documentation. There will be random audits conducted to assure compliance with CUWCC contracts.

h. Local Support/Coordination with other Programs/Compatibility with CALFED objective:

Local Support/Coordination with other Programs. In order to be eligible for the H-Axis rebate program, water agencies must determine if energy service providers or other agencies operating within their service territory offer financial incentive for the purchase of high-performance washing machines.

Compatibility with CALFED objective: CALFED has as an objective "Reduce the conflict among beneficial water users and improve the ability to transport water through the Bay-Delta system." This project will reduce both the direct consumptive use of water upstream of the Bay-Delta resulting in more natural and higher quality flows to the Delta. It will decrease consumptive demand in export areas relying on Bay-Delta water. By lowering salinity inputs to the Delta it will also lower the water management costs of maintaining the salinity isohaline in the Delta (X2) which will indirectly lower conflict between beneficial uses and thus create opportunity for environmental improvements.

II. Title Page

- a. **Title of Project:**
H-Axis or High-performance clothes washer rebate program.

- b. **Name of Applicant; address; phone/fax/E-mail:**
California Urban Water Conservation Council,
455 Capitol Mall, Suite 705, Sacramento, CA 95814,
(916) 552-5885 phone, (916) 552-2931 fax,
CUWCC@cyspaceinfo.com e-mail,
WWW.CUWCC.COM homepage.

- c. **Type of Organization and Tax Status:**
Non-profit corporation 501 (c) (3).

- d. **Tax Identification Number:**
Tax Identification #68-0318069.

- e. **Technical and Financial Contact Person:**
Denise Phelps, Project Coordinator.

- f. **Participants/Collaborators in Implementation:**
CUWCC Officers, CUWCC Steering Committee & CUWCC Staff.

- g. **RFP Project Group Type:**
Group 3 – Other Services.

III. Project Description

a. Project Description and Approach:

It is the goal of the CUWCC that a permanent water conservation agenda be adopted in the State of California. In an attempt to conserve water supplies, reduce the amount and negative effects of wastewater discharged into the Bay-Delta system and into the ocean, and further encourage conservation efforts from California residents, the CUWCC proposes to implement an H-Axis Clothes Washing Machine Rebate Program. The implementation of the H-Axis rebate program, which involves the installation of horizontal-axis clothes washing machines, will result in water savings of over 14,000 acre-feet (AF) over the lifetime of the machines and approximately 140 pounds of Total Dissolved Solids (TDS) per machine being discharged in the Delta. Up to 45,000 washing machine rebates will be offered to California residents whose water or wastewater practices directly impact the Bay/Delta watershed. This rebate program will provide financial incentives, marketing and consumer education to Californians to replace their conventional clothes washing machines with horizontal-axis machines. Rebates ranging from as much as \$100.00 up to \$200.00 in specific geographic target areas will be offered to single family customers.

The key objective of this program is to overcome a number of barriers to acceptance of H-Axis technologies and rebate programs, including: 1) urban water purveyors resistance to new rebate programs, this program is intended to catalyze additional investments in H-Axis rebate programs; 2) consumer resistance by allowing the CUWCC to determine the most effective rebate delivery mechanism to overcome consumer resistance to adopting new, and unfamiliar H-Axis technology; and 3) manufacturer and retail outlet resistance by enabling CUWCC to determine the most effective ways to promote stocking and promotion of H-Axis machines at retail outlets.

The CUWCC would administrate this proposed rebate program by creating a RFP process for California water purveyors to provide customer incentives, marketing and consumer education for supporting high-performance clothes washers to promote cost-effective water, energy, and wastewater conservation.

The CUWCC would create a new grants sub-committee to develop the RFP criteria by which water purveyors could submit proposals to obtain funding for their H-Axis programs. It is anticipated the CUWCC would have the RFP's available within six weeks of notification of funding from Category III.

In order for any water agency to be awarded any Category III funds administered by CUWCC, that agency must: 1) be a signatory to the CUWCC MOU; 2) be in compliance with the CUWCC MOU; 3) cost share at least 25% of the rebate program; and 4) have direct impact on the Bay/Delta watershed.

The CUWCC will create detailed scoring program for prospective proposals submitted by eligible signatories. Special emphasis will be used throughout the scoring process in the following areas: 1) the geographical locations that draw to the Bay/Delta; 2) discharges to wastewater treatment facilities; 3) coordination of rebate funding with other utilities/agencies, 4) implementation of an H-Axis consumer education program. It is anticipated that the CUWCC would be prepared to score proposals and award funding within three months of proposal submission.

b. Location and/or geographic boundaries of project:

The H-Axis or High-performance clothes washing machine rebate program will include any water users with diversions from the Bay/Delta system.

c. Expected benefit(s):

H-Axis clothes washing machines save water, energy, and wastewater loading of detergents and therefore, salts discharged into wastewater. This will lead to reduced water consumption, improved waste water quality and improved water quality for recycled water. All of these effects contribute to improved environmental conditions in the Bay-Delta.

The CUWCC and its signatories will be participating in this program. It is expected that up to 45,000 clothes machines will be purchased and installed throughout California. It is estimated that this

program will save over 14,000 acre feet (AF) of water from this rebate program and 140 pounds of TDS from being discharged to the Bay/Delta watershed over the lifetime of each machine that drains directly into the Bay/Delta system.

By mandating eligibility for participation in this program as 1) water agency must be a CUWCC signatory; and 2) the signatory must be in compliance with the MOU, this rebate proposal has the added potential to 1) bring in more CUWCC signatories; and 2) to provide incentive for all signatories to implement the other BMP's. Therefore, additional water savings can be achieved through this program.

Primary Benefits:

The Primary benefits as a result of this rebate program are 1) directly lowering conflict between beneficial uses of Bay-Delta waters through water conservation, allowing proportionally more water to be dedicated to environmental needs; and 2) by lowering salinity inputs from upstream sources, less pressure will be put on existing water supplies to maintain delta salinity isohalines (x2) as a result from lower salinity water being provided upstream.

Secondary Benefits:

Secondary benefits as a result of this rebate program are 1) reduced energy demand, 2) future reduction in sudsing agents manufactured into detergents; 3) reduced pollutants to the Bay/Delta and other water systems; 4) increased consumer education; and 5) increased water conservation awareness.

d. Background and Biological/Technical Justification:

Background: The CalFed Water Use Efficiency Program is striving for more water conservation. This program recommends incentives and disincentives for water agencies to implement water conservation. This incentive based program is complementary, compatible and supportive of the Water Use Efficiency Program.

Biological/Technical Justification: The High Efficiency Laundry Market Metering Analysis (THELMA) was completed in March 1997. The THELMA evaluation team consisted of 1) Hagler Baily Consulting Inc.; 2) Dethman & Associates; 3) SBW Consulting, Inc; and 4) National Center for Appropriate Technology. Based on the final THELMA report an average annual savings of approximately 5,100 gallons per machine, per year can be expected. Assuming the average life of a machine is 20 years, the overall water savings will be approximately 102,000 gallons per machine installed.

Not only do the new generation tumble action washing machines reduce water consumption, they also get clothes cleaner using less detergent, thereby reducing salt and detergent loading in the waste water streams discharged into Delta tributaries. Based upon tests of laundry detergents conducted for this project by Marin Municipal Water District, a washing machine load typically raises TDS by about 120 mg/L TDS in the water used. Based upon a reduction of detergent usage of 50%, each H-Axis machine will reduce TDS discharged by 16 lbs. per year. Detergent dosages in laundry machine loads is predicated on several considerations. First, there must be adequate surfactant (the most active detergent ingredient) for the dirt loading. Secondly, there must also be adequate surfactant to saturate the cloth and clothes material in a load of wash. Finally, there needs to be sufficient concentration of the surfactant in the water for the product to work effectively. While the dirt and clothes material loading in the wash load may not have changed, the amount of water use for the wash load has decreased and, therefore the amount of detergent needed for achieving a high concentration is decreased.

Another important issue to consider is sudsing. Although most laundry detergent available in the U.S. is designed for high sudsing because consumers think this indicates high cleaning ability, sudsing actually inhibits cleaning action. This is particularly true in H-Axis machines where over sudsing can significantly inhibit cleaning action. Therefore the manufactures of most detergents offered on the U.S. market recommend using about 1/3 to 1/2 of the normal detergent dosage in H-Axis machines to avoid over-sudsing. And typically, even with the reduced detergent dosage, the clothes emerge as clean, or cleaner than they would from a water wasting vertical axis washing machine.

Despite the recommendations noted above, the detergent manufacturers technical staffs claim that on a scientific basis of cloth and dirt loading in a wash load, H-Axis machines will not save much

detergent per load (thereby not reducing the sales of detergent!). And on a purely scientific basis this may be true. However what happens in the real world is what is important for Bay/Delta restoration efforts. We know that the U.S. public (incorrectly) associates sudsing with cleaning action. With this in mind, in practice, most consumers add excess detergent in order to obtain plenty of sudsing. A component of H-Axis machine marketing is re-education of consumers that sudsing is actually detrimental to cleaning and using less detergent is still effective and in most cases produces cleaner clothes. In practice this will result in considerably less detergent use by consumer as H-Axis clothes washing machines penetrate the market.

e. Proposed Scope of Work:

The CUWCC would administrate this proposed rebate program by creating a RFP process for California water purveyors to provide customer incentives, marketing and consumer education for supporting high-performance clothes washers to promote cost-effective water, energy, and wastewater conservation.

The CUWCC would create a new grants sub-committee to develop the RFP criteria by which water purveyors could submit proposals to obtain funding for their H-Axis programs. It is anticipated the CUWCC would have the RFP's available within six weeks of notification of funding from Category III.

The CUWCC will create a detailed scoring program for prospective proposals submitted by eligible signatories. Special emphasis will be used throughout the scoring process in the following areas: 1) the geographical locations that directly impact the Bay/Delta; 2) discharges to wastewater treatment facilities; 3) Coordination of rebate funding with other utilities/agencies. It is anticipated that the CUWCC would be prepared to score proposals and award funding within three months of proposal submission.

Payments from CUWCC's contribution to the rebate program will be based on quarterly invoices and reports submitted by the grantees. Quarterly invoices and reports will certify the number of H-Axis clothes washing machines rebated, geographical location, education programs and actual project costs. Each quarterly invoice will be paid within 30 days of the CUWCC's approval.

f. Monitoring and Data Evaluation

The CUWCC is currently in the process of developing a new database for recording Implementation and Reporting of water conservation efforts by its signatories. The CUWCC needs to implement mechanisms to monitor and evaluate agency program strategies and results. Carefully crafted agency monitoring and reporting will be a condition of funding and the CUWCC will develop guidelines for H-Axis incentive programs based on the data collected through Category III funding rebate programs.

The CUWCC will track the following data regarding the H-Axis clothes washing machine rebate program: 1) the number of rebates used to purchase H-Axis machines; and 2) geographical location of these machines.

The CUWCC will also retain copies of the following: 1) RFPs, 2) Scoring criteria; 3) funded proposals; 4) CUWCC contracts; 5) documentation of machine purchases; and 6) random audit results.

g. Implementability

The CUWCC has a proven track record with the success of its Ultra Low Flush Toilet (ULFT) BMP. Water agencies were reluctant at first to provide financial incentives for the installation and retrofit of ULFTs. However once it was demonstrated to water agencies that the ULFT program resulted in tangible cost-effective water savings, they invested more than 100 million dollars into the program with significant water savings. The CUWCC expects the new H-Axis BMP will have the similar results as the implementation of the ULFT BMP.

The big challenge is to develop public acceptance of the new generation of machines. Consumers tend to be slow to embrace new unfamiliar products, especially when they do not perceive a benefit with new machines. The financial incentives made possible with the grant would be used to jump start

efforts by water agencies to offer rebate and consumer education programs to bring this new and environmentally friendly technology to consumers attention.

V. Costs and Schedule to Implement Proposed Project:

The CUWCC is requesting Five Million Dollars (\$5,000,000.00) to fund this rebate program. It is anticipated that the project implementation will be three (3) years. If it is desired to restrict Category III funds to participation in the rebates for areas draining directly into the Bay/Delta system, a reduced funding level of 1 to 2 million dollars would be sufficient.

VI. Budget Costs

The grant request was calculated: 1) assuming there are 12 million Californians in single family homes or homes with their own washers; 2) four person per home = 3,000,000 washing machines; 3) approximately 20 year life cycle per washing machine; 4) $3,000,000/20 = 150,000$ washers sold per year; 5) 10% switch to H-Axis by virtue of rebate program = 15,000 rebates @ \$100.00 (3 years) = \$4,500,000.00; 6) 10% administrative overhead = \$500,000.00; 7) total \$5,000,000.00.

b. Schedule Milestones

- 1) Creation of Grant Sub-committee; Fall 1997;
- 2) Development of RFP and detailed scoring criteria within six weeks of notification of Category III funding;
- 3) Review, scoring, and approval of proposals, approximately three months;
- 4) Approval of quarterly invoices and reports submitted by grantees approximately 30 days;
- 5) Payments from rebate program will begin within 30 days of approval of grantees' invoices and reports;
- 6) Completion of project within three years of receipt of funding.

c. Third Party Impacts

There are no negative third party impacts anticipated.

VII. Applicant Qualifications

The CUWCC, located in Sacramento, is a stable organization of more than 220 signatories and growing each year. The CUWCC is making significant technical and management contributions to the water conservation field through development of the Best Management Practices (BMPs). The challenge for the CUWCC is to continue moving the BMPs forward in a dynamic water management environment under its strategic plan.

VIII. Compliance with standard terms and conditions

The CUWCC will comply with all terms and conditions of the CalFed Bay-Delta Program Request for Proposals.

NONDISCRIMINATION COMPLIANCE STATEMENT

COMPANY NAME
California Urban Water Conservation Council

The company named above (hereinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, disability (including HIV and AIDS), medical condition (cancer), age, marital status, denial of family and medical care leave and denial of pregnancy disability leave.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

Byron M. Buck 

OFFICIAL'S NAME
DATE EXECUTED
7-28-97

EXECUTED IN THE COUNTY OF
Sacramento

PROSPECTIVE CONTRACTOR'S SIGNATURE
Administrator

PROSPECTIVE CONTRACTOR'S TITLE
California Urban Water Conservation Council

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME