



Our New Automatic Water Softener Removal Rebate is a **WIN-WIN!**

It puts more money in your pocket (up to \$2,000) and protects recycled water for our future.



FACT

Automatic water softeners leave a salty waste that harms our recycled water efforts aimed to ensure our community has a reliable water source for the future.

TAKE ACTION

Remove your automatic water softener now and get a rebate up to \$2,000 and free disconnection and removal. **It's that important.**

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Inland Empire Utilities Agency

A MUNICIPAL WATER DISTRICT

RESIDENTIAL SELF-REGENERATING WATER SOFTENER REMOVAL REBATE PROGRAM

FINAL REPORT
June 2012



MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

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Executive Summary

The Inland Empire Utilities Agency (IEUA) developed a residential self-regenerating water softener removal rebate program. As a result of this successful program, IEUA has removed over 500 water softeners from IEUA's service area. The goal of this innovative project was to develop, implement, and demonstrate the transferability of a financial incentive "rebate" for the voluntary removal of residential self-regenerating water softeners. The objectives of the project were to achieve significant water savings and reductions in the salinity contributed to wastewater treatment systems from residential self-regenerating water softeners as well as raising public awareness about the importance of local water supplies and the need for water conservation and reduced salinity in recycled water.

The rebate program expanded on previous IEUA studies by helping the public understand why salinity is such an important water quality issue. It also helped educate the public on the growing importance of recycled water as one of the core water supplies for IEUA's service area, the salt problem within IEUA's service area and Southern California, and its implications on sustainable water supplies.

IEUA's rebate program consisted of several different advertising campaigns. Phone survey's conducted in 2009 and 2010 provided clarity on the elements of the advertising campaign that were most successful. The results of the surveys showed the campaign messages were reaching residents and prompting them to make desired behavior changes and were also successful in developing a base level of education.

The follow up phone surveys that were conducted found that the current outreach tools developed by IEUA and its consultant (O'Rorke) are effective in reaching residents. The two most commonly cited sources for finding out about the rebate program have been water bill inserts and newspaper ads. As a result IEUA has used this as the primary method of public outreach since 2010.

With the passing of AB 1366 and the subsequent amendment of IEUA's Regional Water Recycling Permit by the Regional Water Quality Control Board, IEUA was granted the legal authority to adopt and enforce an ordinance to control self-regenerating water softeners. In the summer of 2010, IEUA and its member agencies formed a Task Force to draft a model ordinance for IEUA and the member agencies to regulate self-regenerating water softeners. With alternatives to self-regenerating water softeners readily available, including exchange tank services, IEUA and its member agencies decided the best option for regulating the use of self-regenerating water softeners was to prohibit the future installation of these devices. Water softeners that are currently installed would be allowed to remain in place but residents are encouraged to take advantage of the water softener rebate program to voluntarily remove these devices.

Two model ordinances were developed, one for IEUA to adopt as a regional system contract requirement and one for the individual member agencies within IEUA's service area to adopt in order to implement the regional ordinance requirement. Throughout the Ordinance process IEUA

held numerous meetings with business and community groups within its service area working to promote public education about the water softener ordinance and the availability of the rebate program. In July 2011, IEUA adopted an Ordinance to prohibit the future installation of self-regenerating water softeners. IEUA continues to work closely with its member agencies as they move forward with the adoption of their local ordinances restricting the future installation of self-regenerating water softeners.

The implementation of a comprehensive residential self-regenerating water softener rebate program is an important step towards helping to achieve water savings and reductions in the controllable sources of salinity entering wastewater treatment systems. IEUA's Water Softener Rebate Program has helped raise public awareness about the importance of local water supplies and the need for water conservation. IEUA has learned that when developing a rebate program and subsequent water softener ordinance of this type, partnerships are very important. It is important to brief as many local elected officials, community leaders, business groups, and residents as possible. A fair rebate incentivizes residents to remove their self-regenerating water softener and is a source of support for ordinance adoption. It is important for residents to understand that there are viable alternatives to self-regenerating water softeners.

This report describes the activities and lessons learned from this project and how these lessons continue to direct outreach efforts in the community. This report can be used to help provide guidance to other agencies interested in developing effective outreach materials and implementing a water softener rebate program of their own.

Introduction

In the fall of 2008 IEUA launched a residential self-regenerating water softener rebate program to facilitate the removal of self-regenerating water softeners in its service area. The goal of this innovative project was to develop, implement, and demonstrate the transferability of a financial incentive “rebate” program for the voluntary removal of residential self-regenerating water softeners. The objectives of the project were to achieve significant water savings and reductions in the salinity contributed to wastewater treatment systems from residential self-regenerating water softeners as well as raise public awareness about the importance of local water supplies and the need for water conservation and reduced salinity in recycled water.

This program was designed to build upon the Salinity Reduction Study that was conducted between 2003-2006 by IEUA in partnership with the National Water Research Institute, Southern California Salinity Coalition, Water Quality Association/Pacific Water Quality Association and the Claremont Graduate University. The Salinity Reduction Study characterized the sources of salinity within one of IEUA’s water recycling plant’s sewersheds and developed market information on water softener users and their willingness to change their use of this equipment. One of the key findings in the study was that water softener users were unaware of the salt problem within Southern California and its implications for sustainable water supplies.

The 2008 pilot rebate program expanded on the previous study by providing an opportunity to help the public understand why salinity is such an important water quality issue. It also helped to educate the public on the growing importance of recycled water as one of the core water supplies for IEUA’s service area and, as in water conservation programs, what the public can do to help reduce the amount of salt entering Southern California water systems.

As only a few water softener rebate programs have been implemented in California including the Los Angeles County Sanitation Districts (LACSD) program in Santa Clarita, and Santa Clara Valley Water District, IEUA used the LACSD program as a model for the development of the IEUA Water Softener Pilot Rebate Program. This report describes the activities and lessons learned from this project and how these lessons continue to direct outreach efforts in the community. This report can be used to help provide guidance to other agencies interested in developing effective outreach materials and implementing a water softener rebate program of their own.

Background

IEUA is a wholesale distributor of water and recycled water and provides regional wastewater treatment and related services for a 242 square mile area in western San Bernardino County. IEUA’s service area has approximately 825,000 residents within the Cities of Chino, Chino Hills, Fontana, Montclair, Ontario, Rancho Cucamonga, and Upland. IEUA collects industrial and municipal wastewater through a network of regional wastewater sewer interceptors and two non-reclaimable wastewater sewer pipelines. IEUA owns and operates 5 regional water

recycling facilities which process about 53 million gallons per day of residential, commercial and industrial wastewater.

Wastewaters containing high levels of dissolved salts or other industrial wastes that may degrade or limit the use of recycled water are collected in the Non-Reclaimable Wastewater System (NRWS). The NRWS is physically separated from the Regional Wastewater System and provides a means for segregating poor quality, saline wastewater and exporting it out of the IEUA service area. This wastewater flows through the Santa Ana Watershed Project Authority (SAWPA) Brine Lines and NRWS pipelines and is discharged to the Pacific Ocean after receiving appropriate treatment from the Orange County Sanitation District (OCSD) and Los Angeles County Sanitation Districts (LACSD) respectively. In FY 2010/11, the IEUA disposed of about 6 million gallons per day through these brine lines.

Over the next twenty years, IEUA's service area is facing significant population growth and, as a result, IEUA will need to develop new sources of water supply to meet future demands. Critical local sources that are being developed include greater use of IEUA's high quality recycled water for groundwater recharge in conjunction with increased groundwater pumping from the Chino Groundwater Basin and for outdoor irrigation and industrial processes. Over the past 10 years the IEUA has invested \$126 million in its regional capital investment program for the development of recycled water, which will enable the IEUA to deliver approximately 95,000 acre-feet of high quality recycled water for reuse and groundwater recharge.

IEUA Salinity Management

Since 2001, IEUA and its member agencies have implemented a Salinity Action Management Plan to reduce the amount of controllable salt inputs from commercial, industrial, and residential sources, as well as to export salt from the Chino Basin. This was done to protect and enhance the ability of the region to use recycled water for groundwater recharge, outdoor irrigation, and industrial process water. The use of recycled water is critical to the reliability of future water supplies for IEUA's region.

The key strategies of the Salinity Management Action Plan included:

1. the construction of regional groundwater desalters,
2. optimization of the use of the Brine Lines and NRW pipelines for disposal of high salinity commercial and industrial wastes,
3. reducing the Total Dissolved Solids (TDS) contributions from IEUA's water recycling plant operations, implementing an organics management strategy,
4. developing a residential self-regenerating water softener program to remove water softeners to the extent allowed by law.

These actions also met the requirements of the Maximum Benefit Basin Plan Amendment adopted by the Santa Ana Regional Water Quality Control Board in 2004. The investment of over \$200 Million in regional implementation of these actions over the past decade has resulted in the annual export of over 40,000 tons per year of salt from the region. The value of these TDS reduction programs to IEUA's service area is significant. IEUA expects to avoid an estimated

\$430 million in future costs that would be incurred if IEUA had to desalt its recycled water at its water recycling facilities to comply with its 550 mg/L Total Dissolved Solids (TDS) average NPDES permit condition.

Sources of Salt in Wastewater Treatment Systems

The major source of salinity in wastewater, for most municipal systems, is raw untreated water that is supplied for drinking and related potable uses. The amount of TDS in these source waters varies widely in Southern California. For example, the Metropolitan Water District of Southern California (MWD) imported water supply from the State Water Project at Lake Silverwood (used within the Chino Basin) has had an average TDS of 260 mg/L over the past twenty years but peaked during the drought (1990-1992) to 430 mg/L. The imported water from the Colorado River has had an average of 625 mg/L (although within the IEUA service area, Colorado River supplies are not utilized). Furthermore, groundwater sources can range from 100 mg/L to well over 1,000 mg/L; whereas, surface supplies tend to have lower TDS (below 100 mg/L)¹.

When raw water is treated to create potable water supplies, the treatment process adds an average of about 50 mg/L of TDS. The potable water is then used for residential, industrial, and commercial activities, which adds an additional 200 – 400 mg/L. The key sources of this TDS gain include conventional indoor water uses (flushing of toilets, washing clothes and dishes, showers, and other water that flows down the household drain), the residential use of self-regenerating water softeners, industrial and commercial discharges. Finally, the wastewater treatment process will add another 50 – 65 mg/L of TDS².

IEUA Salinity Studies

Several studies on the impacts of the residential use of self-regenerating water softeners on recycled water TDS have been completed in the last decade. Depending on the combined effect of market penetration and model efficiency, self-regenerating water softeners contribute an average TDS of 30-120 mg/L. A national study of six wastewater agencies and their service areas, completed by AwwaRF (2006), found that between 7% and 31% of the serviced households used water softeners and that 33%-66% were self-regenerating models.³

Since 2002, the IEUA has initiated a series of detailed studies to facilitate the development of programs to reduce TDS from residential self-regenerating water softeners. The first study was implemented in partnership with the Metropolitan Water District, the National Water Research Institute, the California Department of Water Resources, and Claremont Graduate University.

¹ IEUA, Salinity Characterization Study for the Carbon Canyon Water Recycling Facility, 2006

² Ibid, page 3

³ American Water Works Association Research Foundation (AwwaRF), 2006. Characterizing and Managing Salinity Loadings in Reclaimed Water System, prepared for the American Water Works Association Research Foundation and Water Reuse Foundation by Ch2mHill, Baker Environmental, Narasimhan Consulting Services, Inc., and McGuire Environmental Consultants, Inc. Denver, Co.

Completed in 2004, this study evaluated non-regulatory approaches for reducing the use of residential water softeners.⁴ Key findings included:

- Water softener purchases by the public are often uninformed, based on misinformation or are made for the wrong purpose, e.g., drinking water purity and safety;
- People who do not own a water softener strongly support the use of mandatory regulations for the replacement of self-regenerating water softeners with non-chloride or portable exchange units;
- Owners of water softeners are unwilling to remove their units regardless of the information presented about the impacts of the salts on recycled water or other environmental issues. These people are open to alternatives which can reduce the salt used by these units as long as they can continue to soften their water.⁵
- Financial incentives for water softener replacement are needed to motivate action by consumers and must be provided at significant levels – at or near the full replacement costs.
- Water and Sanitation Districts are trusted by consumers to provide objective information on water softeners and efforts to help address the salt problem; and,
- Education is a critical factor in a campaign to influence public decisions about the use of water softeners. Utilities need to provide relevant information to consumers at the time that they are considering actions or purchases involving water treatment. This type of consumer-based marketing will require specifically targeted as well as broad-based communications programs from the utilities using a consistent message.

In fall 2004, IEUA initiated a second water softener study in partnership with the National Water Resources Institute, Claremont Graduate University and was joined by the Southern California Salinity Coalition and the Pacific Water Quality Association and Water Quality Association in the sponsorship of the project. The research was divided into two components:

- Developing and implementing a salinity characterization assessment for a service area of one of the IEUA's wastewater treatment facilities with a focus on quantifying the TDS contribution from the residential use of water softeners.

⁴ Knight, Kim and David S. Kung, PhD, 2003 "Consumer Behaviors and Trends Surrounding the Use and Impact of Chloride-Based Water Softeners". See also Knight, Kim and David S. Kung, PhD, 2004 "Combined Salinity Project – Consumer Profiling: The collection and analysis of consumer behavior regarding the use of water softeners."

⁵ Los Angeles County Sanitation Districts received a similar response from the Santa Clarita residents and currently offers a rebate program for the replacement of self-regenerating water softeners with portable exchange units or other non-chloride based softeners. Sharon Green, personal communication, Spring 2006.

- Development and implementation of a pilot public education and financial incentive program to encourage water softener owners to reduce the salinity impact from the use of these devices on the IEUA's recycled water.

With the assistance of the Dubois Agency, a City of Ontario, California based advertising and marketing firm, the research team developed and tested a prototype for a salinity reduction campaign. Titled "Pinch the Salt," the team designed and tested several education pieces including a general information brochure, a mailer promoting a financial rebate for the replacement of old inefficient water softener equipment, an information piece comparing different types of softeners and their water quality impacts, and a web page. Several marketing methods were also tested for reaching water softener owners, including targeted direct mail and a door-to-door survey. The Water Quality Association/Pacific Water Quality Association offered rebates of up to \$150 for replacement of inefficient softeners as well as extended an in-home water softener "tune-up" opportunity to their customers within the study area. This portion of the project was conducted in fall-winter of 2005, and received a limited response. Finally, the Claremont Graduate University held a focus group in spring 2006 with the participants in the Santa Clara Valley Water District Water Softener Rebate Pilot Program to evaluate customer responses to this rebate offer. Key findings from the two year study include the following:

- The "Pinch the Salt" message in the public awareness campaign was well received by the public. The direct mail campaign targeted 8,000 households. 1,052 households were also selected for a door-to-door survey. From this, 382 completed the survey; 42 were identified as having water softeners; and 34 were of the self-regenerating type.
- The door-to-door survey showed that the public awareness campaign had reached about 8% of the respondents but needed to be continued in order to strengthen the public's response. The survey also indicated that the total water softener penetration for the Carbon Canyon Water Recycling Facility (CCWRF) service area was 11%, with 9% being self-regenerating units.⁶
- The rebate portion of the program was not successful because of problems experienced in reaching the target market with the rebate message when only 10% of the residents are estimated to use a water softener. A general mailing was met with limited response, as was the use of the customer lists that were made available for the mailing by the water softener dealers.
- Focus group feedback underscored the importance of using retail water bills as the primary marketing channel for the water softener replacement rebate and the need to provide clear information about IEUA's concerns about the impacts of the salt on water supplies and the environment; and,
- The core motivation for softener owners to use the rebate varied, but key issues were convenience (more efficient water softener meant less frequent refilling of the softener

⁶ The door-to-door survey was conducted in the City of Chino Hills and was assumed to be representative of the CCWRF service area.

with salt), a perceived decline in water softener performance (age or function of unit), and the cost savings (more efficient water softener meant reduced cost of salt purchases);

Examples of Water Softener Mailing Materials

Water Softener -- Dealer In-Home Assessment Mailing



Water Softener Rebate Program

The Salinity Characterization Studies conducted by IEUA in the CCWRF service area in 2006⁷, and water quality monitoring conducted in residential neighborhoods in the City of Fontana in 2007 suggested that water softeners are a significant source of TDS. Further, based upon the CCWRF study, an estimated 9% of the households within IEUA's service area use self-regenerating water softeners.

IEUA's original water softener rebate program was based on the model implemented by the Santa Clara Valley Water District which promoted the transferability of a financial incentive "rebate" for the replacement of old, inefficient residential water softeners with new efficient models. However, the success of the LACSD Santa Clarita program to remove softeners led IEUA to reconsider the water softener message it wanted to promote, especially in light of the

⁷ Full report available for download at www.ieua.org.

drought and the growing importance of recycled water as one of the core water supplies for IEUA's service area and for Southern California. Even though newer water softeners are more efficient, a substantial amount of salt is still discharging into the sewer from these types of softeners impacting recycled water quality. Therefore, it is a stronger message to the public that the most sustainable and effective way to protect our local water supplies is to not use residential self-regenerating water softeners that rely on salt to condition the water.

In 2008, IEUA began working to develop a Water Softener Rebate Program to be implemented in the fall of 2008, similar to the LACSD program in Santa Clarita. This program offered a rebate for the voluntary removal of residential self-regenerating water softeners. Implemented in partnership with the Metropolitan Water District of Southern California, National Water Research Institute, the Southern California Salinity Coalition, and IEUA's member agencies, the program built upon the Salinity Characterization Study that was conducted during 2002-2007. The rebate program yielded a double benefit for IEUA in that it not only reduced the amount of salt entering the wastewater treatment system but also saved water.

Project Tracking Database

In the early stages of the Water Softener Rebate Program development, Microsoft Excel® was used to tract customers. As the program developed, IEUA realized that Excel was not going to meet the challenges of the program specifically in terms of report generation. It was decided a more robust method of tracking customer information was needed. IEUA looked at LACSD's self-regenerating water softener rebate program database, but it was not suitable for IEUA's needs. Therefore, IEUA developed its own water softener rebate database using Microsoft Access®. The database was constantly updated to meet the challenges of the rebate program. As the Rebate Program matured, the database was migrated to SQL for its inherent reliability. A DVD copy of the working database, screenshots of the database forms, summary of rebates issued, and salt and water savings are included in the appendices of this report.

Water Softener Rebate Amount

Development of the rebate program was started in spring of 2008 in order to be ready to launch in the fall of 2008. One of the first steps in the program development was to determine a fair and equitable rebate amount. As the LACSD had previously conducted a thorough assessment of determining the reasonable value for issuing rebates in accordance with a voluntary water softener removal rebate program, it was decided to offer a comparable rebate amount for IEUA's program. This amount is from \$300 up to \$2,000. The approach for determining the actual rebate amount is to calculate the rebate using a sales receipt provided by the applicant using a straight-line depreciation based on a water softeners useful life of 12 years with no salvage value. If the water softener is older than 12 years, the rebate amount will be \$300. If the applicant cannot provide a sales receipt, they will only be eligible for the minimum rebate amount of \$300. Additionally, if the water softener was already installed in the home at time of purchase, the rebate amount will be \$300. Other costs that are included when determining the rebate include sales tax and installation. As financing is up to the resident, it is not considered when

determining the rebate amount. The primary goal of this approach is to maximize participation in the program, keep the rebate program as easy as possible for residents, and minimize the potential for fraud.

In order to qualify for the rebate an applicant's water softener must be installed and in use. Non-working or disconnected water softeners are not eligible for the rebate. Additionally the water softener must be installed at a residence that is served by IEUA. The program limits the applicant to one rebate per site address. In order to make the process as easy as possible for the applicant, IEUA offers free disconnection and disposal of the water softener by a licensed plumber.

Water Softener Rebate Process

The rebate process is initiated by the resident completing a one page rebate application form. Rebate application and instruction forms are also available in Spanish. This form is either mailed to the applicant or downloaded from the IEUA website. Once the application is received by IEUA it is reviewed and processed. Receipts are verified for accuracy and a rebate amount determined. Prior to IEUA sending a rebate offer to the applicant, IEUA staff verifies receipt accuracy by contacting the applicant to verify the water softener has been paid in full. As many water softeners are purchased on credit or financed it is important to verify the loan has been paid in full before sending an offer to the applicant. This often requires contacting the loan company directly. If there is an outstanding balance owed on the water softener the application is rejected. For rebates over \$300, a site inspection is conducted by IEUA staff to verify the softener is installed and working as required by the terms and conditions. For minimum rebates the site inspection is conducted by the licensed plumber at time of removal.

Once these initial steps are completed the applicant is sent an Authorization for Rebate which includes the amount of the rebate being offered by IEUA for the water softener. IEUA also includes the name of the licensed plumber contracted by IEUA for the free removal and disposal of the water softener. If the applicant accepts IEUA's offer, the resident contacts the plumber to schedule an appointment for removal of the water softener. When the plumber removes the water softener the plumber is also provided with a signed copy of the Authorization for Rebate which is then returned to IEUA for verification and final processing of the rebate check. The plumber transports the water softener to a central collection yard located at one of IEUA's water recycling facilities where the softener is disabled and disposed. The entire process from IEUA receiving the rebate application until the resident receives their rebate check is approximately 6-8 weeks.

Public Education and Outreach Campaign

As the IEUA Water Softener Removal Rebate Program was modeled after the LACSD Santa Clarita program it was decided to use the same advertising firm (O'Rorke, Inc.) for the development and implementation of the community-wide public education and outreach efforts. In the spring and summer of 2008, O'Rorke performed research to develop creative messaging for the program campaign. To keep costs down, O'Rorke utilized elements of the LACSD

successful five-year water softener removal campaign in Santa Clarita, findings from three sets of focus groups, and findings from the Claremont Graduate University studies.

Equipped with these materials, O'Rorke engaged IEUA water retailers in this process and later the community by surveying neighborhoods suspected to have a high number of water softeners. This was done to test messages and methods, to educate residents about the adverse effects of water softeners, to increase attention to water issues in the region including water recycling and water conservation, and to uncover community attitudes toward the program and its goals. Ultimately, O'Rorke developed an outreach campaign heavily focused on advertising and grassroots public relations activities.

The testing of messages and concepts paid off. The feedback provided by residents provided clear insight into how to develop the creative message that would cater to existing ideas and attitudes, thereby achieving maximum reach. All comments received were compiled and analyzed to determine the final, most effective campaign message. After reviewing with IEUA's member agencies the following messages were approved for use in the outreach campaign:

*Our new water softener rebate program is a win-win
It puts more money in your pocket
and protects recycled water and local water supplies for our future*

Fact:

Automatic water softeners leave a salty waste that harms our recycled water efforts aimed to ensure our community has a reliable water source.

Take Action:

Remove your automatic water softener now and get a rebate up to \$2,000 and free disconnection and removal. It's that important.

Using the market research and messages above as a starting point, O'Rorke recommended several key images for the campaign. It was agreed that the fist of cash with IEUA's blue color scheme would be the most effective in communicating and branding IEUA's message. The creative message was also retooled into a holiday season print ad to emphasize monetary incentives in time for paying off holiday bills. Copies of the print ads are included in the appendices of this report.

The outreach campaign was officially launched in August 2008. To rally support for the campaign and to reach a wide range of demographics, O'Rorke performed a combination of advertising, media relations and marketing activities. In September 2008 a press event was held at one of IEUA's member agencies offices, the Cucamonga Valley Water District, located in Rancho Cucamonga. To coincide with the program launch, O'Rorke produced a 30 second television commercial that was shown on local Time Warner Cable television stations over a 5 week period with 1,270 spots. The television commercial was also made available to IEUA's member agencies to put on their websites and local TV channels. A radio ad on KCAA 1050 AM radio was run for 6 consecutive weeks with 8 spots per day, Monday through Friday. The rebate

program was also promoted through newspaper ads and press releases placed in the *Chino Champion*, *Inland Valley Daily Bulletin*, *Fontana Herald*, *LA Times*, *El Chicano*, and *La Prensa* with a combined circulation of over 250,000. O'Rorke designed the advertising plan to keep ads running for several months, staggering placement in order to maintain a consistent public presence. Forms of outreach also included water bill inserts, newsletter submissions, and a salt management fact sheet. Copies of the television and radio commercials, newspaper advertisements, and fact sheet are included in the appendices of this report.

During the first phase of the public education and outreach program, IEUA gave several presentations to its Board of Directors, its member agencies, the Regional Water Quality Control Board, Chino Basin Watermaster, and the Southern California Salinity Coalition. The presentations were designed to provide an overview of the rebate program including goals and objectives.

In July 2008, IEUA and O'Rorke completed the water softener rebate program information page which is posted on the IEUA website. The site contains a home page containing information about the program, a rebate application page including rebate instructions and downloadable applications in both English and Spanish, a frequently asked questions (FAQ) page covering specific questions about water softeners, recycled water and water savings, and a hyperlink to the LACSD website which allows residents to review water softening alternatives that do not use salt or waste water, also known as water conditioners.

Prior to the program launch, IEUA established a dedicated phone number and email address for the rebate program. This allows a convenient way for residents to contact IEUA about the program. The phone number and email address are included in the advertising and on the IEUA website.

Phone Survey - 2009

In May and June 2009 O'Rorke conducted a phone survey of 55 Inland Empire Residents who had applied for the rebate for removal of their self-regenerating water softener. Key findings from the phone survey included the following:

- Of the respondents, 91 percent were concerned about water supply in the IEUA service area. One hundred percent of the residents surveyed support the use of recycled water for irrigation and believe recycled water is important to the future of the area.
- Fifty percent of the residents surveyed stated they installed a water softener primarily because of hard water spots. Thirty one percent said aesthetic issues such as dry skin or taste prompted them to install a water softener, while 28 percent identified deposits in washing machines, dish washers, or toilets as a motivator. A quarter of the respondents purchased their home with a softener already installed and only 12 percent claimed they use a water softener for health reasons.

- Seventy seven percent of those surveyed said environmental reasons were the key motivator in their decision to remove their water softener, while 31 percent said the monetary rebate was the key factor. Some other reasons for a resident removing their softener included the expense of upkeep, moving from their home, and no noticeable benefit from the softener.
- At the time of the survey only three residents replaced their water softener with an alternative system. Two installed reverse osmosis and one customer went to an exchange tank service. Several residents stated they have begun researching alternative systems and several mentioned looking for environmentally sound options. None of the residents surveyed implied that they would look for a salt-based replacement. Many of the residents did not plan on replacing their units.
- Residents reported a high recall of the rebate message, with 78 percent stating they remembered the message. Conversely, residents could not always recall where they heard about the program. This can most likely be attributed to the fact that the rebate program was launched almost a year before this survey was conducted, making it difficult for respondents to remember where they first heard about the rebate program.
- Approximately half of the respondents cited their water provider and/or IEUA as the most trustworthy source for water-related information and 34 percent identified utility bill inserts as a trustworthy method to reach them.

The phone survey conducted in 2009 provided clarity on the elements of the advertising campaign that were most successful, and those that needed to be reworked. As IEUA continued its rebate program, the above findings assisted in development of a comprehensive outreach plan and in fine tuning future outreach efforts.

The survey findings showed that the campaign messages were reaching residents and prompting them to make desired behavior changes. A surge in applications following the holiday ad, in addition to the survey responses indicate that residents are eager to save water, energy and will change their behavior for a monetary incentive (rebate). Results also show the messaging was successful in developing a base level of education and understanding about the importance of local water supplies and the need for water conservation.

Phone Survey - 2010

In 2009 and 2010, O'Rorke was tasked with continuing the public outreach campaign for IEUA. As a follow up to the 2009 phone survey, In April and May of 2010, O'Rorke conducted a second phone survey to obtain feedback on removal motivators and the effectiveness of the campaign messages.

O'Rorke surveyed 46 of the 159 Inland Empire residents (29 percent) who applied for rebates through Inland Empire Utility Agency's (IEUA) AWS removal rebate program. The residents were divided into two groups: Group A represented the 137 residents who had removed their

AWS and received their rebate check, and Group B represented the 22 residents who had been approved for a rebate but had not removed their AWS. Calls were conducted primarily during business hours, with three attempts to reach residents in the evening.

O’Rorke surveyed 41 residents from Group A (30 percent) and five residents from Group B (23 percent). Three residents who were originally on the Group B list did in fact remove their water softener and were moved to Group A for the purposes of the survey results provided in this report.

Overall, the goal of the phone survey was to reveal community attitudes toward the ongoing rebate program and its purpose, and pinpoint what motivated residents to apply for the rebate. In regards to Group B, the secondary objective was to find out why this group did not complete the rebate once they were approved and determine what IEUA could do to help. Key findings from the phone survey included the following:

Group A: AWS Removed

- Eighty-six percent of the residents surveyed were concerned about water supply in the Inland Empire. Ninety-one percent of the residents surveyed supported the use of recycled water for irrigation and believed recycled water is important to the future of the area.
- A quarter of the respondents purchased their home with a water softener already installed. Fifty-nine percent said aesthetic issues such as dry skin or hair and taste prompted them to install a water softener. Twenty-two percent reported they installed a water softener because of spots on dishes, glasses or shower doors, while six percent identified hard water scale in washing machines, dishwashers, or toilets as a motivator. Only 13 percent claimed they used a water softener for health reasons.
- Twenty percent of the respondents provided additional reasons for the installation of their water softener, such as money-savings and a lack of knowledge regarding the harmful effects.
- Fifty-five percent of respondents said they were prompted by utility bill inserts and other outreach to “do the right thing” and cited environmental issues—including the protection of recycled water—in their decision to remove their water softener. It is important to note that overall, most respondents were first motivated by the rebate value and considered environmental benefits a secondary motivator.
- Additional reasons for the removal of the water softener were provided by 45 percent of the residents, such as the expense of salt and upkeep, no noticeable benefits from automatic water softeners, faulty and broken systems, etc. In addition, nine percent mentioned they did not notice a difference between the water quality received while using their water softener and the tap water they received after removing their water softener.

- At the time of the survey only four residents had replaced their water softener with an alternative system, including one exchange tank. Five other residents stated they are looking to replace their units, with one resident researching granulated activated carbon systems. The remaining 35 respondents did not plan on replacing their units. Six residents mentioned they used a water filter to alleviate some of the aesthetic concerns they had with hard water.
- Residents reported a high recall of the public outreach campaign message, with 75 percent stating they remembered hearing or seeing the campaign message. Conversely, residents could not always report where they had heard it. Twenty-five percent either did not recall hearing or seeing the campaign message or could not remember where they heard or saw it. It is important to note that newspaper advertising and utility bill inserts were the main methods of outreach used in 2009 and 2010. The most recalled sources were:
 - Utility bill inserts—recalled by 43 percent of respondents
 - Newspaper ads—recalled by 23 percent of respondents
 - Newspaper stories—recalled by nine percent of respondents
 - Online sources—recalled by seven percent of respondents
 - Other sources such as newsletters, word-of-mouth, flyers—recalled by 20 percent of respondents
- Forty-five percent of respondents cited their water provider and/or IEUA as the most trustworthy source for water-related information. The second most trusted provider of information or method of research was the Internet. Thirty percent of the responding residents noted that they like to research items of interest online. Twenty five percent of the respondents identified utility bill inserts as a trustworthy method to reach them. Twenty-two percent of residents also cited local newspapers, primarily *The Inland Valley Daily Bulletin*, as trustworthy source, followed by 20 percent of residents who trusted local television channels and news radio stations.

Group B: Approved for Removal but not yet Completed Process

- Of the two respondents who had been approved for removal but had not yet completed the process, both were somewhat concerned about water supply in the Inland Empire. They also supported the use of recycled water for irrigation and believed recycled water is important to the future of the area.
- When asked what motivated them to consider removing their water softener, one replied they had received a letter explaining the damage caused by the salt, while the other admitted they did not think it was necessary to have a softener. When asked why they haven't taken full advantage of the rebate program and removed their water softener one respondent claimed they were offered a very small sum of money and decided completing the process was not worth it as they recognized their house would be worth more with the system still in place. They reported that they still wanted to remove their water softener system but would like to be offered a larger rebate.

- Of the two residents, one remembered hearing or seeing the campaign message (in the *Inland Valley Daily Bulletin* and online). Conversely, the second resident did not recall hearing or seeing the campaign message or could not remember where they heard or saw it. One respondent identified utility bill inserts as a trustworthy method to reach them, while the other claimed to trust no one when it came to water-related issues.

The phone survey results provide clarity on the messaging and key motivators that most strongly influence residents to take action and apply for the rebate. As IEUA continues its rebate program, these findings will assist in developing an ongoing outreach plan and fine tuning current and future campaign messages.

Survey findings show current campaign messages are reaching residents and prompting them to make desired behavior changes. Fifty-four percent of respondents cited information about the environmental effects of softeners, including the damage to recycled water efforts, as a key motivator in their decision to remove their automatic water softener. Interestingly, only 36 percent of respondents cited money as their primary reason for applying for a rebate. While many cited environmental reasons as their main motivation to disconnect, we do believe money is the key motivator as our experience with similar programs has shown monetary incentives are always the strongest influence on behavior change.

Results show that current messaging has been successful in developing a base level of education. While we know money is the true reason people primarily apply for a rebate, residents also feel good knowing they are “doing the right thing.” Not only are they saving money, and water, they are also supporting an environmental issue in their community.

The strong level of recall shows that the current outreach tools developed by IEUA and O’Rourke are effectively reaching residents. The two most commonly cited sources for hearing about the rebate program have been water bill inserts and newspaper ads. As a result IEUA has used this as the primary method of public outreach since 2009.

As the rebate program continues IEUA has expanded its outreach and advertising to include salt management fact sheets, water conservation, and drought messaging. Advertising continues with rebate program inserts for inclusion in water bills and counter top displays, periodic editorials in local newspapers and city newsletters. IEUA has also made available to its member agencies a water softener display. The display includes a self-regenerating water softener, the bags of salt used in one year, and display boards addressing water softener facts and the rebate program. This display has been used successfully when placed in entrances to city halls and other public places.

Regulation of Self-Regenerating Water Softeners

Control of salt discharged to IEUA’s regional system by residential self-regenerating water softeners has proven difficult to achieve due to restrictions placed on local government authority to regulate these devices. Prior to 1999, most cities within IEU’sA service area had ordinances that prohibited the installation and use of self-regenerating water softeners by homeowners.

However, by 1999, lawsuits brought by the water softener industry elsewhere in the State had invalidated all local ordinances.

In 1999, Senate Bill 1006 amended the California Health and Safety Code to establish new conditions under which local governments and water agencies could regulate self-regenerating water softeners. To enforce such regulations, specific findings had to be made regarding a lack of compliance with water quality permit requirements, the water agency's actions to enforce a reduction in salinity contributions from non-residential sources, and the need for regulations; that is, the regulation of self-regenerating water softeners is the only means available to achieve compliance. In addition, an independent study quantifying the sources of salt entering the wastewater system had to be conducted and remedial actions were required to reduce the salt gain identified.

In 2009, Governor Schwarzenegger signed the IEUA-sponsored AB 1366, which provided local governments with expanded authority to regulate residential self-regenerating water softeners, especially in areas of the state with identified salt problems (e.g., water bodies that are adversely impacted by salinity and high use groundwater basins that are hydro-geologically vulnerable to salinity pollution). The bill applied only to local agencies or cities that own and operate a community sewer or water recycling facility.

The first step in the process of implementing the new law was for the Santa Ana Regional Water Quality Control Board (Regional Board) to adopt a finding as part of a formal order that the "control of residential salinity input will contribute to the achievement of water quality objectives." Although IEUA's existing Regional Water Recycling Permit conditions include the requirement that IEUA and their member agencies regulate residential self-regenerating water softeners to the extent allowed by law, the language does not include the specific finding required by AB 1366.

On March 18, 2010, the Regional Board adopted Order R8-2010-0008, which amended IEUA's Regional Water Recycling Permit, and made the necessary finding that control of the discharge of waste from residential self-regenerating water softeners into the collection systems will contribute to the achievement of the water quality objectives approved in the Basin Plan Amendment.

With the Regional Board adopted Order, IEUA and its member agencies now had the legal authority to adopt and enforce ordinances to control self-regenerating water softeners. In the summer of 2010, IEUA and its member agencies formed a Regional Water Softener Task Force. The goal of the Task Force was to draft a model ordinance for IEUA and its member agencies to regulate self-regenerating water softeners. The Task Force met for a six month period between September 2010 and January 2011, reviewing the studies assessing the impact of water softener use within the IEUA's service area, the alternatives to the use of self-regenerating water softeners, and developing of the draft model ordinances.

Key elements of the discussions included the following:

- Studies completed between 2004 and 2007 by IEUA, in partnership with the National Water Research Institute, Southern California Salinity Coalition, the Water Quality Association/Pacific Water Quality Association, and the Claremont Graduate University, estimated that the use of self-regenerating water softeners contributed about 10% of the controllable salt inputs to the recycled water (about 25 mg/l). It was also estimated that about 10% of the households within IEUA's service area, about 18,000 homes, use these devices. These findings are consistent with other water softener impact studies including the 2005 AWWARF study.
- The Regional Board has issued findings that the estimated discharges from self-regenerating water softeners are significant and that the regulation of self-regenerating water softeners will contribute to the water quality objectives approved in the Basin Plan Amendment.
- Studies completed between 2004 and 2006 by the Chino Basin Watermaster and IEUA on the economic impacts to region, if the Total Dissolved Solids in IEUA's recycled water supplies exceed NPDES permit limits, are significant. It would cost between \$400 and \$500 million to purchase replacement water supplies from the Metropolitan Water District of Southern California or to desalt recycled water before it could be used (2006 dollars).
- Alternatives to self-regenerating water softeners are readily available, particularly exchange tank services that are comparable to traditional salt softeners except that the salt is collected and appropriately discharged to brine lines.
- The best option for controlling the use of self-regenerating water softeners is to prohibit the future installation of these devices (water softener exchange tank services would be expressly allowed). Water softeners that are currently installed would be allowed to remain in place, and residents would be encouraged to take advantage of the water softener rebate program to voluntarily remove these devices.

Because control of self-regenerating water softeners must occur at the residential level, the Task Force developed two model ordinances; one for IEUA to adopt as a regional system contract requirement and one for the individual member agencies within IEUA's service area to adopt in order to implement the regional ordinance requirement. The Task Force recommended that IEUA should adopt the regional ordinance amendment first, and the contracting agencies would adopt their individual ordinances at their earliest convenience following IEUA's ordinance adoption. This recommendation was unanimously approved by IEUA's Regional Technical and Policy Committees in February, 2011.

Throughout the Ordinance process IEUA held numerous meetings with business and community groups throughout the service area working to promote public education about the water softener ordinance and the availability of the rebate program.

Consistent with AB 1366 requirements, IEUA properly noticed and held a public hearing on June 15, 2011, to discuss amendments to IEUA's Ordinance No. 87 to prohibit the future

installation of self-regenerating water softeners. IEUA received over 150 letters from residents supporting the ordinance, and 17 people spoke in favor of the ordinance at the public hearing. On July 20, 2011, IEUA's Board of Directors unanimously adopted the amendment to IEUA's Regional Wastewater Ordinance No. 87 to prohibit the future installation of self-regenerating water softeners in the IEUA service area.

From December 2011 to June 2012, three of IEUA's seven member agencies (Fontana, Montclair, and Upland) approved the adoption of an ordinance prohibiting the future installation of self-regenerating water softeners. IEUA continues to work closely with its other member agencies as they move forward with the adoption of local ordinances restricting the future installation of self-regenerating water softeners. IEUA is also working with the Inland Valley Association of REALTORS to promote public education about the water softener ordinance and the availability of the rebate program. IEUA will also be following up on a request to big box retailers (Lowe's, Home Depot, etc.) that they remove self-regenerating water softeners from their shelves as part of implementing the regional ordinance. Lastly, IEUA will continue to promote its rebate program and will work with community groups and businesses to build an understanding and support for the prohibition of these types of softeners and to encourage the use of salt-less water conditioning technologies including exchange type canister systems.

Lessons Learned

Lessons learned include the following:

- Partnerships are very important.
- Brief as many local elected officials, community leaders, business groups, and residents as possible.
- Residents should understand that there are viable alternatives to self-regenerating water softeners.
- Outreach materials should include clear messaging about the rebate.
- Outreach materials should address money incentives and include effective visuals and convincing explanations.
- Outreach must focus on consistent themes to break misconceptions.
- Fair rebate incentivizes people to remove their self-regenerating water softener and is a source of support for ordinance adoption
- Efforts should continue to educate residents on the importance of recycled water and the need for water conservation.

Conclusion

The development and implementation of a comprehensive residential self-regenerating water softener rebate program is an important step towards helping to achieve water savings and reductions in the controllable sources of salinity entering wastewater treatment systems. IEUA's Water Softener Rebate Program has helped raise public awareness about the importance of local water supplies and the need for water conservation. This program has also provided an opportunity to help residents understand the growing importance of recycled water as one of the core water supplies for IEUA's service area and the salt problem within IEUA's service area and Southern California, and its implications on sustainable water supplies.

Self-Regenerating Water Softeners are a significant source of controllable salt within IEUA's service area. The use of such units is expected to increase if steps are not taken to educate the residential users about the impacts of these devices on recycled water supplies. It is also important to let residents know that other alternatives exist and are available to residents now.

IEUA believes the residential self-regenerating water softener rebate program is a success and has plans to continue the program in the coming years. It is also believed that IEUA's current program can easily be used by other agencies who may be interested in starting a similar type of program of their own.