
**Industrial Process Expansion
Orange County, CA
Final Project Report**



**R08AP35242
Municipal Water District of Orange County
18700 Ward Street
Fountain Valley, CA 92708
March 30, 2015**

Final Report: Industrial Process Expansion

1. Recipient Information:	
Recipient Name:	Municipal Water District of Orange County Joseph M. Berg 18700 Ward Street, Fountain Valley, CA 92708
Project Name:	Industrial Process Expansion
Assistance Agreement No:	R08AP35242
Date of Award: (Month, Year)	June, 2008
Estimated Completion Date (Month, Year)	December, 2014
Actual Completion Date: (Month, Year)	December, 2014

2. Final Funding Information	Funding Amount
Non-Federal Entities	
1. Municipal Water District of Orange County	\$354,668.00
2.	
3.	
<i>Non-Federal Subtotal:</i>	<i>\$354,668.00</i>
Other Federal Entities	
1.	
2.	
3.	
<i>Other Federal Subtotal:</i>	<i>\$0</i>
<i>Requested Reclamation Funding:</i>	<i>\$115,000.00</i>
<i>Total Project Funding:</i>	<i>\$469,668.00</i>

3. One Paragraph Project Description:
<p>The Municipal Water District of Orange County (MWDOC) developed a unique Program to help industrial businesses reduce their water use and associated wastewater flows. The Industrial Process Water Use Reduction Program (Program) provides businesses with engineering surveys to identify water saving process improvements and offers financial incentives to help implement the recommended changes. The Program targets the following four industry sectors: Food</p>

Processing, Textile Manufacturing, Metal Plating, and Electronics Manufacturing. The sectors were identified during a review of sanitation district wastewater flow data and have the largest potential for water savings. During the Program development, MWDOC partnered with source control inspectors from local sanitation districts and account representatives from energy utilities for technical assistance. These partners also provide marketing assistance. The Program offers two levels of engineering surveys. The first level survey is a Focused Survey to identify major water uses and potential water saving measures. A more detailed Comprehensive Survey is available for industrial water customers that have a significant water savings potential identified in the first level survey and express a strong interest in implementing water saving recommendations. Survey participants receive customized Survey Reports that summarize recommended retrofits and changes to operating practices that will result in significant water savings. Estimated costs, savings and payback information are also included, along with “next steps” on how to implement the recommended improvements. Incentive payments from the Metropolitan Water District of Southern California and MWDOC are offered to companies successfully implementing long-term process improvements.

The proposed Program goals would continue efforts of existing Program and include funding for the following: three additional comprehensive surveys, five additional MWDOC incentives and engineering assistance to implement process changes for two companies. The overall water savings Project goal was 377 acre feet of water per year.

4. Final Project Description: *Briefly describe components of the project and the work completed, including each element of the scope of work and the work completed at each stage of the project. Please include maps, sketches, and/or drawing of the features of the completed project, as appropriate. In addition, please describe any changes in the project scope.*

MWDOC was awarded a USBR Field Services Grant 2008 to implement the Industrial Process Expansion, a continuation of the Industrial Process Water Use Reduction Program that was established in 2006. Therefore, MWDOC was able to immediately commence the OC Smart Irrigation Timer Rebate Program upon the execution of the agreement on June 10, 2008.

The proposed Program expansion built on established momentum of pilot phase in order to achieve meaningful water savings, a reduction in wastewater flows and reduce energy use. The proposed expansion will offer Program participants:

- Surveys and reports that include practical process change recommendations
- Engineering assistance to design and implement recommendations
- Incentives to motivate the customer to retrofit

The proposed Program expansion utilized materials developed during the pilot phase, including survey forms, report formats and standardized incentive agreements. The proposed expansion provided expanded engineering assistance, process surveys and financial incentives.

Marketing and Promotion

Work completed: Our experience shows that the best marketing approach is one-on-one contact with the customer. Program staff will utilize contacts made during pilot phase of Program, which include retail water agencies, sanitation district source control inspectors, Southern California Edison and The Gas Company, vendors and trade organizations. We worked with customers that have large potential for water savings, are interested in Program and are likely to implement retrofit recommendations.

Survey Process

Work completed: Our Program utilized professional engineers and technical specialists with specific expertise in industrial process improvements. The survey (or audit) focused on the process technologies yielding the best return for the customer and the Program. We know that the retrofit will only occur if the customer supports the recommended retrofit. For this reason, the Program included two levels of surveys: the Focused Survey and the Comprehensive Survey.

The Focused Survey is a component of the pilot Program and will include a limited number of measures, those most likely to be implemented by the customer. The Focused Survey may include a review of only one building on the premises or one major water-using process. The overall goal of the Focused Survey is to provide the customer with a report outlining process change recommendations and shows them how to secure water agency incentives, how to retrofit, and how to incorporate water efficiency into their everyday business.

The more detailed Comprehensive Survey is a component of this proposal and will be provided for customers expressing a strong interest in pursuing one or more specific process improvements representing significant water savings. The engineer will spend up to three days on-site measuring flows to determine equipment design ranges; identifying water recycling and reuse possibilities as well as equipment retrofits that would result in reduced water usage and wastewater discharges. The engineer would diagram system modifications including before and after water balance, take supporting photos, and detail a thorough list of measures for the process.

The Comprehensive Survey Report must be reader-friendly, informative, and useful. The Comprehensive Report includes the following:

- A cover letter that defines the report sections
- A summary page listing all recommended retrofits, upgrades, and changes to operating practices with cost, savings, and payback information.
- A Water Use and Wastewater Discharge Summary page that graphically illustrates how the customer uses water through a water balance chart, pre- and post-retrofit
- Last 12 months of usage graphed month-by-month
- What their usage would be if they conducted the retrofit, month-by-month
- Report detail will be highly customized to the customer's specific sector, process and site. Each recommendation will be detailed and include photos and pre- and post-diagrams.
- Include a "Next Steps" page that provides the customer with a road map on how to implement the recommended process improvements

- A calculated estimate of the potential range of grant funding that could be provided as an incentive to implement the project. There will be a heavy focus on financial paybacks.
- A Reference Page with contact information for MWDOC, Survey Staff and Metropolitan Water District

Through this Program, the following survey reports were prepared:

Targeted Sector	Focused Surveys Completed	Comprehensive Surveys Completed
Electronics Manufacturers (Cirtech*, Excello, Jazz*, Marce*I, Sanmina, Winonics, Alcon, Ricoh)	8	3
Food Processors (Dean Ice Cream*, Dean Milk*, Flavorchem, House, Knotts-Conagra, Langlois, Maruchan, Pepsi, Pick Up Stix, SunOpta*, Todds, 7UP)	12	3
Metal Plating Companies (All Metals, Electrolurgy*, Continuous Coatings*, Gerard, Hixson*, Electronic Precision Inc*, Coastline Metal*)	7	5
Textile Manufacturers (American Apparel/USDF*, St. John, Fabrica*)	3	2
Miscellaneous -Laundry (Angelica, Prudential*, Oakwood)	3	1
Miscellaneous -Defense Contractor (Boeing)	1	0
Miscellaneous-Pharmaceuticals (TEVA*, B. Braun*, Allergan Inc)	3	2
Miscellaneous -Power Plant (AES)	1	0
Miscellaneous - Manufacturer (Esterline, Oakley*)	2	1
Miscellaneous -Hospitals (UCI Medical Labs*)	1	1
Total	41	18

* denotes both a focused and comprehensive survey was completed for the site.

Following the completion of the survey, an appointment is made with the company's decision maker(s) to deliver and present the details of the survey report and offer financial incentives to encourage the process changes. This is required to fully explain the report and motivate the customer to move forward with the retrofit and other recommendations. The engineer walks the customer through each section of the report and take the time to respond to questions and detail the technical aspects of the process improvements. The engineer stresses the value of Program participation; identify the incentives available and the support resources available to help make the recommendations a reality. MWDOC clearly recognizes that the survey is only the first step in the process and the real work is in aiding and motivating the customer to take each step required in order to complete the efficiency improvements at their site. A strong customer

follow up process will prompt customers to make the extra effort to complete the retrofit process.

Incentive Payments

Work completed: An element of this Program that is designed to encourage implementation is the financial incentive available for the process improvement project. Incentives from this Program and Metropolitan’s match will not exceed engineering, equipment and construction costs.

Program staff worked with the customer and help prepare their incentive application. The application for companies requesting incentives included:

- Comprehensive Survey report performed by program engineer
- A process schematic with meter locations shown
- Complete description of the proposed project
- Cost estimate for the proposed process improvements
- Water and wastewater discharge savings estimates

MWDOC Program staff review the application submittal to determine if the process design is technically feasible, the estimated cost to complete the project is reasonable, the water savings estimates are based upon industry accepted methodologies and are correctly calculated and the customer commits to post- installation metering and inspections. To ensure that the Program is operating with the maximum integrity, a quality control audit was performed on 100% of all completed payments.

The following table lists the incentives paid to participants through this Program. In total, \$351,726.74 was paid, \$84,478.00 provided by this grant agreement, and \$257,065.71 counted towards matching funds.

Check Date	Company	Amount	Incentive Paid By	Incentive Payment No.
Jun-08	MEI	\$12,878.00	MWDOC / DWR	1 of 4
Jul-08	MEI	\$28,000.00	Metropolitan	2 of 4
Jun-09	MEI	\$14,092.00	Metropolitan	3 of 4
May-09	MEI	\$6,344.00	MWDOC / DWR	4 of 4
Sep-09	Prudential	\$2,466.00	MWDOC/DWR	1 of 3
Oct-09	Prudential	\$5,000.00	Metropolitan	2 of 3
Aug-10	Prudential	\$2,466.00	MWDOC / USBR	3 of 3
June-12	Irvine Company	\$10,246.83	MWDOC / DWR / Metropolitan	1 of 1
Nov-12	Boeing (phase 1)	\$37,924.96	MWDOC / DWR	1 of 4
Mar-13	Boeing (phase 1)	\$37,924.96	Metropolitan	2 of 4
June-13	Oakley	\$16340.14	MWDOC/ DWR/ USBR	1 of 2
June-13	Oakley	\$8,391.87	IRWD	2 of 2

June-13	Boeing (phase 2)	\$7,307.11	MWDOC/ DWR/ USBR	1 of 1
Dec-13	Boeing (phase 1)	\$37,924.96	MWDOC / DWR	3 of 4
Feb-14	UCI	\$13,236.07	IRWD	1 of 4
Mar-14	UCI	\$10,155.00	MWDOC / DWR	2 of 4
Mar-14	UCI	\$10,155.00	MWDOC / USBR	3 of 4
Dec-14	Hoag	\$41,117.34	MWDOC/ DWR/ USBR	1 of 2
Dec-14	Boeing (phase 3)	\$49,756.50	MWDOC / USBR	1 of 1
Total		\$351,726.74		

Engineering

Work completed: The pilot phase of this Program identified several companies that are in need of additional technical support to implement water-efficient process changes. These are more technical changes and where a vendor is not able to handle engineering specifications. The interested company does not typically retain an engineer that can create the design documents. The proposed Program expansion provided expanded engineering assistance to companies in need in order to help them implement water saving process changes.

Monitoring

Work completed: Monitoring of the proposed Program is critical to maintaining the integrity and longevity of the water savings to be achieved. This Program does not rely upon one-for-one equipment replacements (such as toilet fixtures, where unit savings have already been established), instead encouraging and providing incentives customers to implement engineered process changes in their production operations. As such, nearly every change will be unique and will require some form of measurement and verification including but not limited to water use per unit of production.

We require that water meters be used to validate and forecast savings from process changes that are subsidized by the Program. Participants will participate in one full year of monitoring of process water savings (the “after” condition) once the process change has been determined to be fully operational. In most cases, a “before” condition would also be measured, depending upon the process operation and the metering that may already be in place. Water meter locations would be selected by Program personnel. Water meters would then be periodically read by MWDOC Program staff, data would be collected and analyzed, and actual water savings computed. Monitoring with water meters would conclude one year after official “start-up” of the new process had been declared by the customer. Program staff will compile a savings assessment which will be provided to the customer, MWDOC management, its affected member water agency, MWD, the appropriate sanitation district, and Reclamation.

5. Accomplishment of Project Goals: *Describe the goals and objectives of the project and whether each of these was met. Where appropriate, state the reasons why goals and objectives were not met, and describe any problems or delays encountered in completing the project. Please include whether or not the project was completed within cost.*

From Project launch, on June 10, 2008, through the term end date of December 31, 2014, a total of 41 Focused Surveys and 18 Comprehensive Surveys were performed. Additionally, 11 sites implemented a total of 13 projects yielding a water savings of 404 acre feet per year. These implementation rates have exceeded (107%) the Project water saving goal of 377 acre feet per year.

Company Name	Water Savings (gallons/year)	Water Savings (acre feet/year)	Monitoring Period
Marcel Electronics	14,030,666	43.1	1 year
Sun Opta	17,662,000	54.2	1 full growing season
Prudential Laundry	6,560,779	20.1	1 year
Irvine Company	740,000	2.3	n/a
Electrolurgy	1,955,109	6.0	n/a
Teva	5,181,038	15.9	n/a
Boeing Company	16,350,000	50.2	1 year
Oakley	13,070,000	40.1	1 year
Boeing Company, Phase II	1,587,352	4.9	n/a
UCI Medical Buildings	4,412,020	13.5	n/a
Boeing Company, Phase III	23,400,000	71.8	n/a
Hoag	6,900,000	21.2	1 year
Fabrica Fine Carpets	19,900,000	61.1	1 year
TOTAL	111,848,964	404	107%

While the original term of the Program was extended, no additional funding was requested through this grant agreement. A critical lesson learned was the time extent to which this require to go from survey to implementation.

6. Discussion of Amount of Water Conserved, Marketed or Better Managed: *In responding to the questions set forth below, Recipients should rely on the best data or information available. Actual field measurements should be used whenever possible (e.g., baseline data or post-project data derived from measuring devices, diversion records, seepage tests, etc.) Where actual field measurements are not available, water savings (or amounts marketed or better managed) may be estimated based on studies, other similar improvement projects, or anecdotal evidence.*

A. Recipient's total water supply (average, annual, available water supply in acre-feet per year):

The five year average water demand in the MWDOC service area is 589,853 acre-feet (AF). This is the total supply for all retail water agencies in Orange County and is comprised of both imported water from the Metropolitan Water District of Southern California, ground water pumped from the Orange County Water District ground water basin, and recycled water. This water is currently going to single- and multi-family residential users, landscape irrigation, and commercial, industrial and institutional users. Of the total, approximately 55% is used for landscape irrigation and 45% is used indoor.

Imported sources account for 42% (241,000 AF), groundwater accounts for 51% (303,000 AF), recycled water accounts for 6% (37,000 AF), and surface water accounts for 2% (8,000 AF). Imported supplies provided by Metropolitan include the Colorado River and the Bay-Delta via the State Water Project. Approximately 99% of MWDOC's demand is for municipal and industrial purposes, and 1% is for agricultural purposes. Municipal and industrial water use in Orange County is comprised of single- and multi-family residential, commercial, industrial, and institutional users. According to the 2010 MWDOC rates survey, there are approximately 557,000 single family connections, 78,000 multi-family connections, and 72,000 irrigation, commercial, industrial, and institutional connections. There are also 8,000 recycled water connections, primarily for irrigation, and over 100 agriculture connections.

Shortfalls in supply are two-fold. First, the region is experiencing multiple dry-years on the Colorado River, which is inhibiting our ability to access surplus water. Second, on the State Water Project from Northern California, we are experiencing extreme dry-year conditions and pumping restrictions due to endangered species. Over the last three water years California has experienced below normal rainfall, and access to imported water from the State Water Project this year is again limited due to continued dry conditions. Because of these ongoing reductions of imported water supply, water agencies have, in some years, been forced to draw from emergency storage to meet demand. In addition, agencies continue to enforce mandatory water use restrictions such as irrigation time of day and days of the week, no washing of hard surfaces, no runoff, etc.

B. Amount of water conserved, marketed or better managed as a result of the project (in acre-feet per year):

From Program launch, on June 10, 2008, through December 31, 2014, when the Program term ended, a total of 41 Focused Surveys and 18 Comprehensive Surveys were completed. Additionally, 13 projects were implemented at 11 sites, yielding 404 acre feet per year of overall Program savings.

Water conserved through implementation of the proposed Project will be retained in regional storage reservoirs or the groundwater basin for future use, thereby improving water supply reliability for Orange County.

C. Describe how the amounts stated in response to 6.B were calculated or estimated:
In responding to this question, please address (1) – (3) below.

(1) Describe the information/data being relied on to calculate/estimate the project benefits. State how that data/information was obtained, if appropriate. Provide any other information necessary to explain how the final calculation/estimate of project benefits was made.

Program water savings was calculated one of two ways; with utilizing engineering estimates (through the comprehensive survey process) or through post implementation metered monitoring. Engineering estimates were only permitted when a sites savings was less than 15 million gallons per year. Program savings are listed in Section 5 of this report. At sites where engineering estimates were employed, the water savings calculations were based on onsite analysis and in many cases meters were utilized for pilot or baseline estimates.

Process improvements can be summarized by the following general categories: reuse of rinse water, equipment upgrades, sterilization equipment, cooling tower modifications/efficiency measures, and creating an alternative water source for cooling tower use, and creating an alternative water source for watering the landscape.

(2) As appropriate, please include an explanation of any concerns or factors affecting the reliability of the data/information relied on.

The following factors may influence the annually expected water savings:

- Deviation of production levels, which can be influenced by economy
- Temperature changes, heating/cooling days for cooling tower use
- Landscape water use needs

(3) Attach any relevant data, reports or other support relied on in the calculation/estimate of project benefits, if available. Please briefly describe the data/information attached, if any.

In collaboration with West Basin and Los Angeles Department of Water and Power, MWDOC surveyed the Program participants to better understand the impetus and barriers to implementing water savings process improvements at their sites. Through this process, it was observed that similar programs all tend to yield a 15 to 25 percent implementation rate. The MWDOC Program yielded a 25% implementation rate.

D. Use of Conserved Water: *Please explain where the water saved, better managed, or marketed as a result of the project is going (e.g. used by the recipient, in stream flows, available to junior water users, etc.*

The Program will improve water supply reliability by being more efficient with existing supplies. As a result, less pumping will occur from the groundwater basin, aiding in refilling the basin more rapidly, and less imported water will be used, allowing unused water to be retained in regional water storage reservoirs for use at a future date. Both these benefits will minimize or forestall shortages due to drought.

The Program promotes and encourages collaboration among all water agencies in Orange County. While MWDOC serves approximately 70% of the county, the proposed Project will be implemented throughout 100% of the county in partnership with all 28 retail water agencies. This partnership is significant as all water agencies in the county will have a united message of “efficient water use” to water users. Because of this county-wide approach, the unfortunate situation of “haves” and “have not” will be avoided – all consumers will have access to one standardized program.

The Program will significantly increase the awareness of water conservation in Orange County. The Program served as an example of efficiency that can be replicated not only from user to user, but also by water agency to water agency, thereby increasing the capability of future water conservation and efficiency efforts beyond Orange County.

E. Future tracking of project benefits: *Please state whether and how the recipient plans to track the benefits of the project (water saved, marketed or better managed) in the future. If no actual field measurements are currently available to support the estimate of project benefits in 6.B., please state whether actual field measurements will become available in the future. If so, please state whether the Recipient is willing to provide such data to Reclamation on a voluntary basis once it is available.*

As part of the MWDOC water use efficiency program evaluation planning horizon, sites participating in this Project will be assessed under two future evaluations projects: 1) Device Retention Study, with expected to be complete within fiscal year 2015-16, and 2) Device Persistence Study, with an expected completion date to be determined.

7. Discussion of Amount of Renewable Energy Added: *If your project included the installation of a renewable component, please describe the amount of energy the system is generating annually. Please provide any data/reports in support of this calculation.*

Not Applicable

8. Describe how the project demonstrates collaboration, stakeholder involvement or the formation of partnerships, if applicable: *Please describe the collaboration involved in the project, and the role of any cost-share or other types of partners. If there were any additional entities that provided support (financial or otherwise) please list them.*

This Project provided multi-level partnerships within MWDOC's entire service area, including the north and south subwatershed basins, with benefits yielded by cities, water districts, community, and the environment. The Project was built on established regional integration and coordination with multiple goals across geographic and water resource services.

MWDOC, the Metropolitan Water District of Southern California, and the 28 retail water agencies within the MWDOC service area were all proactive in marketing the Program. This Project promoted the region-wide utilization of non-structural Best Management Practices, appropriate to non-point-source pollutants, which aide in the prevention of potential pollutants from entering municipal storm drain systems and aquatic ecosystems, during dry weather.

The water savings achieved through this Project leads to supply reliability and reduction of imported water dependency. MWDOC, in collaboration with its retail agencies, and cities of Anaheim, Fullerton, and Santa Ana, established the OC 20x2020 Regional Alliance as part of MWDOC's 2010 Regional Urban Water Management Plan, where all retail water agencies benefit from pooling their water use efficiency investments.

9. Describe any other pertinent issues regarding the project:

None

10. Feedback to Reclamation regarding the WaterSMART Program: *Please let us know if there is anything we can do to improve the WaterSMART program in general, including the process for applying for or completing a WaterSMART project. Your feedback is important to us.*

The overall Industrial Program process runs very smooth, from the proposal process through to final reporting. MWDOC has enjoyed working with Reclamation throughout. The local field and regional personnel are a tremendous help when needed in understanding the grant agreement requirements. Thanks again.

11. Attachments: *Please attach the following*

- **Any available data or information relied on in responding to paragraph 7, above; Not Applicable**
- **A map or illustration showing the location of the recipient's facilities (see paragraph 4, above);**
- **Maps, sketches, and/or drawings of the features of the completed project, as appropriate (see paragraph 5, above);**
- **Representative before and after photographs, if available;**
- **A table showing the total expenditures for the completed project (please see Sample Final Project Costs Table, below).**

FINAL PROJECT COSTS TABLE.

BUDGET ITEM DESCRIPTION	COMPUTATION		RECIPIENT FUNDING	RECLAMATION FUNDING	TOTAL COST
	\$/Unit and Unit	Quantity			
SALARIES AND WAGES	\$53.04	814	\$43,174.50	\$0.00	\$43,174.50
FRINGE BENEFITS	\$13.26	814	\$10,793.62	\$0.00	\$10,793.62
TRAVEL			\$0.00	\$0.00	\$0.00
EQUIPMENT			\$0.00	\$0.00	\$0.00
SUPPLIES/MATERIALS			\$0.00	\$0.00	\$0.00
CONTRACTUAL/ CONSTRUCTION					
Task 2 – Surveys			\$43,634.17	\$0.00	\$43,634.17
Task 3 – Engineering Assistance				\$30,522.00	\$30,522.00
Task 4 – Incentive Payments			\$257,065.71	\$84,478.00	\$341,543.71
ENVIRONMENTAL AND REGULATORY COMPLIANCE					
OTHER					
TOTAL DIRECT COSTS					
TOTAL PROJECT COSTS			\$311,493.50	\$115,000.00	\$469,668.00

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

Southern California Area Office

RELEASE OF CLAIMS

Agreement Number

R08AP35242

Agreement Date

**June 10, 2008 thru
December 31, 2014**

WHEREAS, by the terms of the above-identified agreement for

Industrial Process Expansion

entered into by the United States of America, hereinafter also referred to as the United States, and the grant recipient whose name appears on the agreement as

Municipal Water District of Orange County

it is provided that after completion of all work, the grant recipient will furnish the United States with a release of all claims;

NOW, THEREFORE, in consideration of the above premises and the payment by the United States to the recipient the total amount of

\$115,000.00

the grant recipient hereby remises, releases, and forever discharges the United States, its officers, agents, and employees, of and from all manner of debts, dues, liabilities, obligations, accounts, claims, and demands whatsoever, in law and equity, under or by virtue of the said agreement except:

IN WITNESS WHEREOF, the agreement recipient has executed this release this 31th day of March, 2015.

By



(Signature)

Robert J. Hunter

General Manager

Municipal Water District of Orange County

**Industrial Program Expansion
Agreement No. R08AP35242
Municipal Water District of Orange County**

**WATER CONSERVATION FIELD SERVICES PROGRAM PROJECT
BENEFITS**

Reduces Leaks and Seepage	_____	Acre Feet/Year
Reduces System Spills	_____	Acre Feet/Year
Makes More Water Available	<u>404</u>	Acre Feet/Year
Reduces Operation Costs	<u>145,884</u>	\$ /Year
Reduces Energy Costs	<u>38,029</u>	\$ /Year
Reduces Waste Treatment Costs	_____	\$ /Year
Improves Crop Yield	_____	Percent/Year
Reduces On-Farm Costs	_____	\$ /Year
Reduces Per Capita Use	<u>0.15</u>	Gallons/Capita/Day
Provides Technical Training	<u>82</u>	# of People
Provides Water Conservation Education	<u>500</u>	# of People
Improves Water Supply Reliability	<u>10</u>	Frequency (Years)*
* Estimate of how often the improvement will occur (i.e. 1 = each year)		
Delays Construction of New Supplies	_____	Years
Reduces Drainage/Erosion	_____	Tons
Improves Water Quality	_____	% reduction of _
Enhances Aquatic/Riparian Habitat	_____	Years

Total Program Budget by Task

Agreement No.: R08AP35242

Grantee: Municipal Water District of Orange County

Program: Industrial Process Water Use Reduction Program Phase I

Term: October 1, 2014 to December 31, 2014

Program Budget
\$469,668

Invoice No.	Billing Period	<u>Task 1</u> Adminstration/ Management	<u>Task 2</u> Surveys	<u>Task 3</u> Engineering Assistance	<u>Task 4</u> Incentive Payments	Total
1	6/10/08 tp 12/31/08	\$777.66	\$14,733.00	\$2,000.00	\$12,878.00	\$30,388.66
2	1/1/09 to 6/30/09	\$4,649.75	\$7,740.00	\$2,550.00	\$48,436.00	\$63,375.75
3	7/1/09 to 12/31/09	\$7,990.91	\$5,941.00	\$0.00	\$2,466.00	\$16,397.91
4	1/1/10 to 6/30/10	\$5,230.65	\$11,285.00	\$775.00	\$5,000.00	\$22,290.65
5	7/1/10 to 12/31/10	\$3,309.60	\$837.58	\$13,780.00	\$0.00	\$17,927.18
6	1/1/11 to 6/30/11	\$1,683.20	\$0.00	\$0.00	\$0.00	\$1,683.20
7	7/1/11 to 3/31/12	\$5,586.24	\$1,350.00	\$5,689.68	\$0.00	\$12,625.92
8	4/1/12 to 9/30/12	\$4,115.75	\$0.00	\$405.00	\$3,415.61	\$7,936.36
9	10/1/12 to 3/31/13	\$6,591.78	\$0.00	\$0.00	\$75,849.91	\$82,441.69
10	4/1/13 to 9/30/13	\$4,678.28	\$1,747.59	\$4,722.32	\$52,775.81	\$63,924.00
11	10/1/13 to 3/31/14	\$4,547.17	\$0.00	\$600.00	\$64,853.00	\$70,000.17
12	4/1/14 to 9/30/14	\$4,368.12	\$0.00	\$0.00	\$0.00	\$4,368.12
13	10/1/14 to 12/31/14	\$439.01	\$0.00	\$0.00	\$75,869.39	\$76,308.40
Total Amount Spent		\$53,968.12	\$43,634.17	\$30,522.00	\$341,543.71	\$469,668.00

Total	\$469,668
Amount Remaining	\$0
Percent Remaining	0%



Federal Share Invoice Tracking

Agreement No.: R08AP35242

Grantee: Municipal Water District of Orange County

Program: Industrial Process Water Use Reduction Program Phase I

Term: October 1, 2014 to December 31, 2014

Award Budget
\$115,000

		<u>Task 1</u> Adminstration/ Management	<u>Task 2</u> Surveys	<u>Task 3</u> Engineering Assistance	<u>Task 4</u> Incentive Payments	Total
Invoice No.	Billing Period					
1	6/10/08 tp 12/31/08	\$ -	\$ -	\$ 2,000.00	\$ -	\$ 2,000.00
2	1/1/09 to 6/30/09	\$ -	\$ -	\$ 2,550.00	\$ -	\$ 2,550.00
3	7/1/09 to 12/31/09	\$ -	\$ -	\$ -	\$ -	\$ -
4	1/1/10 to 6/30/10	\$ -	\$ -	\$ 775.00	\$ -	\$ 775.00
5	7/1/10 to 12/31/10	\$ -	\$ -	\$ 13,780.00	\$ -	\$ 13,780.00
6	1/1/11 to 6/30/11	\$ -	\$ -	\$ -	\$ -	\$ -
7	7/1/11 to 3/31/12	\$ -	\$ -	\$ 5,689.68	\$ -	\$ 5,689.68
8	4/1/12 to 9/30/12	\$ -	\$ -	\$ 405.00	\$ 3,415.61	\$ 3,820.61
9	10/1/12 to 3/31/13	\$ -	\$ -	\$ -	\$ -	\$ -
10	4/1/13 to 9/30/13	\$ -	\$ -	\$ 4,722.32	\$ 9,100.26	\$ 13,822.58
11	10/1/13 to 3/31/14	\$ -	\$ -	\$ 600.00	\$ 48,079.96	\$ 48,679.96
12	4/1/14 to 9/30/14	\$ -	\$ -	\$ -	\$ -	\$ -
13	10/1/14 to 12/31/14	\$ -	\$ -	\$ -	\$ 23,882.17	\$ 23,882.17
Total Amount Spent		\$ -	\$ -	\$ 30,522.00	\$ 84,478.00	\$ 115,000.00

	Total	\$ 115,000.00
Amount Remaining		\$ -
Percent Remaining		0%



Applicant / Match Tracking

Agreement No.: R08AP35242
Grantee: Municipal Water District of Orange County
Program: Industrial Process Water Use Reduction Program Phase I
Term: October 1, 2014 to December 31, 2014

Award Budget
\$354,668

Invoice No.	Billing Period	<u>Task 1</u> Adminstration/ Management	<u>Task 2</u> Surveys	<u>Task 3</u> Engineering Assistance	<u>Task 4</u> Incentive Payments	Total
1	6/10/08 tp 12/31/08	\$ 777.66	\$ 14,733.00	\$ -	\$ 12,878.00	\$ 28,388.66
2	1/1/09 to 6/30/09	\$ 4,649.75	\$ 7,740.00	\$ -	\$ 48,436.00	\$ 60,825.75
3	7/1/09 to 12/31/09	\$ 7,990.91	\$ 5,941.00	\$ -	\$ 2,466.00	\$ 16,397.91
4	1/1/10 to 6/30/10	\$ 5,230.65	\$ 11,285.00	\$ -	\$ 5,000.00	\$ 21,515.65
5	7/1/10 to 12/31/10	\$ 3,309.60	\$ 837.58	\$ -	\$ -	\$ 4,147.18
6	1/1/11 to 6/30/11	\$ 1,683.20	\$ -	\$ -	\$ -	\$ 1,683.20
7	7/1/11 to 3/31/12	\$ 5,586.24	\$ 1,350.00	\$ -	\$ -	\$ 6,936.24
8	4/1/12 to 9/30/12	\$ 4,115.75	\$ -	\$ -	\$ -	\$ 4,115.75
9	10/1/12 to 3/31/13	\$ 6,591.78	\$ -	\$ -	\$ 75,849.91	\$ 82,441.69
10	4/1/13 to 9/30/13	\$ 4,678.28	\$ 1,747.59	\$ -	\$ 43,675.55	\$ 50,101.42
11	10/1/13 to 3/31/14	\$ 4,547.17	\$ -	\$ -	\$ 16,773.04	\$ 21,320.21
12	4/1/14 to 9/30/14	\$ 4,368.12	\$ -	\$ -	\$ -	\$ 4,368.12
13	10/1/14 to 12/31/14	\$ 439.01	\$ -	\$ -	\$ 51,987.22	\$ 52,426.23
Total Amount Spent		\$ 53,968.12	\$ 43,634.17	\$ -	\$ 257,065.71	\$ 354,668.00

Total	\$ 354,668.00
Amount Remaining	\$ -
Percent Remaining	0%

