

Water Demand Management Measures

Law

10631 (f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:.....

Establishing goals and choosing water conservation measures is a continuing planning process. Goals are developed, adopted, and then evaluated periodically. Specific conservation measures are phased in and then evaluated for their effectiveness, achievement of desired results, and customer satisfaction. Water conservation can achieve a number of goals such as:

- Meeting legal mandates
- Reducing average annual potable water demands
- Reducing sewer flows
- Reducing demands during peak seasons
- Meeting drought restrictions

Fourteen Water Demand Management Measures (DMMs) are specified in the latest revision of the Urban Water Management Planning Act. The Act was revised in 2000 to allow the DMMs to correspond with the 14 Urban Best Management Practices (BMPs).

The California Urban Water Conservation Council (CUWCC) was formed in 1991 through the "Memorandum of Understanding (MOU) Regarding Urban Water Conservation in California." The urban water conservation BMPs included in the MOU are intended to reduce California's long-term urban water demands. The BMPs are currently implemented by the signatories to the MOU on a voluntary basis. However, the CalFed Bay-Delta Program has included mandatory implementation of the BMPs and certification of water use efficiency programs in its final Environmental Impact Statement/Report and Record of Decision. This certification requirement would take effect by December 2002, and would apply to any agency subject to the Urban Water Management Planning Act that is located in the CalFed solution area.

The City is not a signatory to the MOU and is therefore not a member of the CUWCC. As a recommendation of this Plan, the City will vote on the issue of becoming a member of the CUWCC and a signatory to the MOU during 2006 and implement all cost-effective BMPs. The following are just some of the benefits of being a member of the CUWCC: conferences, BMP workshops, free publications, research regarding water management practices, leadership on water legislation and networking with other agencies and interest groups.

For the purpose of responding to the Urban Water Management Planning Act the City will address the 14 Demand Management Measures. Descriptions of the City's water conservation programs are discussed below. The City has, in good faith, tried to address and comply with many of the BMP targets listed in the CUWCC MOU where applicable.

DMM 1 -- Interior and Exterior Water Audits for Single Family and Multi-Family Customers

IMPLEMENTATION DESCRIPTION: Retail agencies are required to develop a strategy for targeting and marketing water use surveys to single-family and multi-family residential customers. The City offers free residential water use surveys to single-family and multi-family customers who request the survey. Beginning in 2006, the City plans to specifically focus on the top 20 percent of water users in each sector.

The City's computer services department will be developing an inquiry program to sort billing records by water use within sectors, so that letters offering the free surveys can be mailed to the highest water users.

If a customer does not participate and remains on the highest water use list the subsequent year, the customer will receive up to three additional letters offering a water use survey, with hose shut-off nozzles offered as a further incentive to participate.

The City plans to conduct the water use surveys using existing water department employees and by using consultants on an as needed basis.

Single-family surveys are estimated to take about two hours. During the interior portion of the survey, the City: measures flow rates of existing plumbing fixtures and tests for toilet leakage with dye tablets; offers and installs showerheads and faucet aerators (if necessary).

The City then conducts the landscape survey. The City: shows the customer the location of the water meter and how to read the meter; measures the landscaped areas, tests the sprinkler system for irrigation efficiency, and distribution uniformity; teaches the customer how to set the irrigation controller; recommends sprinkler system repairs or improvements and provides brochures on water efficient landscaping, design, and plants. Multi-family surveys are similar, but require coordination with owners/managers, tenants, and landscaping services.

Institutional and governmental customers have also been offered water use surveys. All City-owned facilities including the City Hall, fire stations, the City's corporation yard facilities, and public restrooms have been surveyed and retrofitted.

IMPLEMENTATION SCHEDULE: As a recommendation of this plan, the City will sign the urban MOU and implement this BMP according to its schedule.

METHODS TO EVALUATE EFFECTIVENESS: For each dwelling unit the City completes a customer data form (including number of people per household, number of bathrooms, age of appliances, and lot and landscaped area square footage). This data will be used to analyze the customer's water use, and to refine the program.

Beginning in 2007, and each subsequent year thereafter, City staff will review the surveyed customers' water use records, and compare historic with current use for one year after the survey. If the reduction in water use is not in line with DMM water savings estimates, staff will flag the customer's account and offer a follow up survey.

CONSERVATION SAVINGS: Savings levels are assumed per the terms of the urban MOU for each device.

DMM 2 -- Plumbing Retrofit

IMPLEMENTATION DESCRIPTION: Agencies are required to identify residences constructed before 1992 and develop a direct-distribution, targeting and marketing strategy for water saving plumbing devices, including showerheads, toilet displacement devices and toilet flappers, and faucet aerators, as practical. The City participated in the above items during the drought in the late 1980's and early 1990's but discontinued the program after the drought. The City plans to participate in the distribution of

showerheads, aerators, and toilet tank leak detection tablets according to the urban MOU implementation schedule.

IMPLEMENTATION SCHEDULE: As a recommendation of this plan, the City will sign the urban MOU and implement this BMP according to its schedule.

METHODS TO EVALUATE EFFECTIVENESS: A database of the number of devices distributed will be maintained.

CONSERVATION SAVINGS: Savings levels are assumed per the terms of the urban MOU for each device.

DMM 3 -- Distribution System Water Audits, Leak Detection and Repair

IMPLEMENTATION DESCRIPTION: The City has conducted water audits and leak detection and repair of its water distribution system, if unaccounted-for losses are 10 percent or greater, since 1991. The City also has a program of exercising valves.

IMPLEMENTATION SCHEDULE: The City monitors all flows into and out of its distribution system. Inflows consist of well production meter readings and outflows consist of customer meter readings. Every month each of these meters are read, and the field readings are entered into a computer database. The percentage of outflows (metered sales) versus well production (supply) is calculated each month. Losses calculated in this fashion have averaged 10 percent. In order to reduce this percentage, the City intends during 2008 to begin a meter replacement program. In the meantime, the City's recent rate increase will allow for the build up of reserves sufficient to fund the meter replacement program in 2008.

Additionally, the City was recently awarded a Proposition 13 Infrastructure Grant by the Department of Water Resources to replace 30,000 feet of leaking mains. The work will begin in 2006 and be complete by 2007.

METHODS TO EVALUATE EFFECTIVENESS: City staff annually review the data records to confirm that the unaccounted for water losses stay under the required 10 percent.

DMM 4 -- Metering with Commodity Rates

IMPLEMENTATION DESCRIPTION: Agencies are required to place water meters on all new service connections per California state law. The DMM also requires retrofitting of existing unmetered connections, and charging a commodity rate for water.

The City is fully metered for all customer sectors, including separate meters for single-family residential, commercial, large landscapes, and all institutional/governmental facilities.

The City has an inclining multi-block rate structure, as shown below:

<u>Range in Gallons</u>	<u>Cents per 1,000 Gallons</u>		
	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>
0 to 6,000	36	39	41
6,000 to 30,000	59	64	67
30,000 to 100,000	92	99	104
100,000 to 500,000	97	105	110
Over 500,000	107	116	122

The new rates were increased this year, after twelve years of no rate increases. The rate increases are as shown above, through FY07. Beginning FY08 a CPI factor will be applied to the rate structure on an ongoing basis.

IMPLEMENTATION SCHEDULE: The City will continue to install and read meters on all new services, and will begin a meter replacement program during 2008.

METHODS TO EVALUATE EFFECTIVENESS: Periodic review of customer water bills to analyze water use consumption patterns.

BUDGET: Meter installation costs are part of new service connection fees.

DMM 5 -- Large Landscape Water Audits and Incentives

IMPLEMENTATION DESCRIPTION: The DMM requires agencies to contact non-residential customers with large landscape areas and offer water use surveys. For those customers with dedicated irrigation meters, agencies must assign ET-based water use budgets.

IMPLEMENTATION SCHEDULE: As a recommendation of this plan, the City will sign the urban MOU and implement this BMP according to its schedule.

The City plans to complete the large landscape customers' water use surveys over the next five years. The City will continue to implement this DMM by annual review of customers' water use, and by offering on-site follow-up evaluations to customers whose total water use exceeds their total annual water budget.

METHODS TO EVALUATE EFFECTIVENESS: Surveys, landscape information training, water bill historical water use and other programs will assess effectiveness.

CONSERVATION SAVINGS: Landscapes that are upgraded based on survey recommendations could result in a 15% reduction in water demand.

DMM 6 – High-Efficiency Washing Machine Rebate Programs

IMPLEMENTATION DESCRIPTION: The DMM requires agencies to offer customer rebates for the purchase of high-efficiency (horizontal-axis) clothes washers, if local energy providers or wastewater utilities also offer rebates.

IMPLEMENTATION SCHEDULE: Pacific Gas & Electric Company offered rebates for the purchase of high-efficiency (horizontal-axis) clothes washers during calendar year 2005. The City did not implement local rebates because the City was not a member of the CUWCC. As previously mentioned, the City plans to become a CUWCC member and will implement future rebate programs when the local energy provider offers new rebates.

DMM 7 -- Public Information

IMPLEMENTATION DESCRIPTION: The DMM requires agencies to provide a public information program. The City promotes water conservation by distributing public information through bill inserts, brochures, community speakers, paid advertising, and many special events every year. City water bills show gallons used per billing period for the last billing period compared to the same period the previous year.

In 2006, the City will complete its Web Page, which will include information on water conservation.

IMPLEMENTATION SCHEDULE: The City will continue to provide public information services and materials to remind the public about water conservation.

METHODS TO EVALUATE EFFECTIVENESS: The City will track public response regarding the information provided.

CONSERVATION SAVINGS: The City has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

DMM 8 -- School Education

IMPLEMENTATION DESCRIPTION: The DMM requires agencies to offer school education programs. The City continues to work with the Sanger Unified School District to promote water conservation and to educate students about these issues.

IMPLEMENTATION SCHEDULE: The City will continue to implement this DMM.

METHODS TO EVALUATE EFFECTIVENESS: The City will continue to survey the institutions and educators on the number of programs, materials and attendance at water conservation activities.

CONSERVATION SAVINGS: The City has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

DMM 9 -- Commercial and Industrial Water Conservation

IMPLEMENTATION DESCRIPTION: The DMM requires agencies to identify all commercial, industrial, and institutional accounts (CII) and rank them according to water use. All CII accounts are to be contacted on a regular basis and offered either a water use survey and customer incentives program or the agencies to attempt to achieve a water use reduction target in the CII customer sector. The City provides water use audits to any CII customer who requests an audit. In 2006, the City plans to complete a computerized analysis of all CII customers by monthly and annual water usage, to identify the top 20% of the CII customers. The City plans to contact these customers by letter, and follow up with telephone calls, to offer audits. City staff plans to review these customers' billing records annually.

IMPLEMENTATION SCHEDULE: The City is currently implementing this DMM on a limited basis. As a recommendation of this Plan, the City will sign the urban MOU and implement this BMP according to its schedule.

METHODS TO EVALUATE EFFECTIVENESS: The City plans to implement this DMM by annual review of customers' water use, and by offering on-site follow-up evaluations to customers whose total water use exceeds their total annual water budget.

DMM 10 -- Financial Incentives

IMPLEMENTATION DESCRIPTION: The DMM requires agencies to provide financial incentives, if cost-effective.

IMPLEMENTATION SCHEDULE: As a recommendation of this plan, the City will sign the urban MOU and implement this BMP according to its schedule if the City determines this DMM is cost effective.

METHODS TO EVALUATE EFFECTIVENESS: If implemented, the City will monitor financial and technical assistance provided and assess verifiable savings from implemented DMMs/BMPs.

CONSERVATION SAVINGS: There is no method to quantify the savings of this DMM, per the terms of the urban MOU.

DMM 11 -- Conservation Pricing, Water Service and Sewer Service

IMPLEMENTATION DESCRIPTION: The DMM requires agencies to eliminate non-conserving pricing structures and adopt conserving pricing. The City has an inclining block rate structure for all customer sectors, which was discussed under DMM 4.

IMPLEMENTATION SCHEDULE: The City will continue to implement this DMM.

METHODS TO EVALUATE EFFECTIVENESS: Monitor the number of violators who use water in excess of their established allotment. Water bills show gallons used per billing period for the last billing period compared to the same period the previous year. This allows customers to compare their water usage with the same period of the prior year, and to monitor their water usage over time.

CONSERVATION SAVINGS: The incentive of this DMM is to decrease the customer's water costs and water use through price incentives as described above.

DMM 12 -- Water Conservation Coordinator

IMPLEMENTATION DESCRIPTION: The DMM requires agencies to designate a water conservation coordinator to oversee water conservation program implementation. The City has designated existing staff in the Public Works Department to oversee the water conservation program implementation.

IMPLEMENTATION SCHEDULE: The City will continue to implement this DMM.

METHODS TO EVALUATE EFFECTIVENESS: The City will continue to survey the institutions and educators on the number of programs, materials and attendance at water conservation activities.

CONSERVATION SAVINGS: The City has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

DMM 13 -- Water Waste Prohibition

IMPLEMENTATION DESCRIPTION: The DMM requires agencies with police powers to enforce ordinances to enact and enforce measures prohibiting water waste. The City established a Water Conservation Ordinance in 1992, which is actively enforced. The ordinance prohibits the waste of water in the City.

IMPLEMENTATION SCHEDULE: The City has permanently incorporated this DMM into its ordinances.

METHODS TO EVALUATE EFFECTIVENESS: All citations and violations are reported annually and the City reviews the number of violations to determine the effectiveness of this program.

CONSERVATION SAVINGS: The City has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

DMM 14 -- Ultra-low Flush Toilet Replacement

IMPLEMENTATION DESCRIPTION: This DMM requires agencies to assess the number of residential service connections constructed before 1992 and offer ultra low flush toilet replacement or rebate programs to such customers. The program shall be at least as effective as a "Retrofit on Resale" requirement.

IMPLEMENTATION SCHEDULE: As a recommendation of this plan, the City will sign the urban MOU and implement this BMP according to its schedule.

METHODS TO EVALUATE EFFECTIVENESS: Method set according to the terms of the urban MOU.

CONSERVATION SAVINGS: Assumptions according to the terms of the urban MOU.