

DOCKETED

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On Certification of Water Conservation and Water Loss Detection

Additional submitted attachment is included below.



October 28, 2016

Commissioner Andrew McAllister
California Energy Commission
1516 9th Street
Sacramento, CA 95814

RE: DOCKET 16-OII-01 -- *Certification of Water Conservation and Water Loss Detection and Control technologies, pursuant to Executive Order B-37-16*

Dear Commissioner McAllister:

Governor Brown's Executive Order B-37-16, Making Water Conservation a California Way of Life, directs the Commission to "certify innovative water conservation and water loss detection and control technologies that also increase energy efficiency." Aclara, an industry-leading smart infrastructure company that works with communities across California to help conserve water, appreciates the opportunity to discuss the water and energy conservation benefits of advanced metering infrastructure ("AMI").

Aclara presented at your October 11, 2016 workshop and submits these comments to provide further detail regarding how AMI and data-enabled monitoring and control technologies can significantly reduce water loss, while increasing energy efficiency and reducing greenhouse gas emissions.

Water waste represents one of California's most intractable challenges. Water leaks cost many cities nationwide as much as 10-30 percent of their water. Because of the large amounts of energy used to pump and move water, this loss also represents large amounts of wasted energy.

The U.S. Environmental Protection Agency estimates that drinking and wastewater systems account for approximately 3-4 percent of energy use in the United States, adding over 45 million tons of greenhouse gases annually and accounting for 30-40 percent of total energy consumed by municipalities. Various studies show that approximately 56 billion kilowatts (kW), or \$4 billion, are used in providing drinking water and wastewater services each year, with a majority of the power used in potable water production being used for pumping.¹

¹ <https://www.epa.gov/sustainable-water-infrastructure/water-and-energy-efficiency>

AMI provides significant water- and energy-saving benefits beyond those available from older metering technologies, such as automatic “drive-by” meter reading (“AMR”) technologies that read meters only monthly, typically simply to support customer billing. AMI provides much more detailed consumption data, typically measuring water use at every endpoint in hourly (or smaller) intervals, enabling the use of advanced data analytics that can help identify water losses and reduce water use in many ways. AMI offers a number of significant benefits:

- **Water system leak detection.** Aclara’s ZoneScan® technology, for example, allows water suppliers to rapidly pinpoint distribution system losses to within 3 feet of a water main leak so that they can be fixed more quickly and at lower cost. This not only allows utilities to repair and maintain their systems but can also be used to track trends and determine the size of leaks. Leesburg, Virginia used Aclara to reduce its water losses from 15% to 7%, quickly identifying everything from service-line breaks that were hemorrhaging water to usage spikes that indicated problems like leaking toilets. The system paid for itself in less than five years.
- **Customer leak detection and conservation.** The United States Environmental Protection Agency estimates that ten percent of U.S. homes have leaks that waste 90 gallons or more per day. Utilities using AMI can present regular usage information to users online. For example, San Francisco consumers used to only see their water usage in a bill every two months. Using Aclara hardware, San Francisco’s Public Utilities Commission now allows consumers to log on to their account and see their detailed usage for the prior day and sends them individual communications if data indicates possible leaks. According to the California Water Foundation, customer engagement programs can leverage meter data to reduce water consumption between 4.6 and 6.6% at scale and increase adoption of low-flow fixtures and appliances by 2-6 times.
- **Improved water pressure management of utility systems.** AMI enables water systems to automatically modulate flow and pressure according to water demand, keeping pressure constant at the service points. Besides reducing leakage and bursts, smart pressure management lowers operating costs by reducing site visits and energy costs from maintaining unnecessary high pressure. Smart pressure management requires wireless communications including sensors that measure pressure at critical points, software that analyses the pressure at such points and calculates responses to achieve a desired pressure, and a controller device to prompt smart pumps or valves whose use can save energy.
- **Fewer truck rolls.** Traditionally, utilities have rolled trucks to obtain monthly meter reads, which in large water districts can mean hundreds of thousands of truck miles per year. The use of advanced metering enables data collection without truck rolls, significantly reducing criteria air pollutants and greenhouse gas emissions.
- **Data informs better policy.** The availability of granular water usage data enabled by AMI can also help policymakers and regulatory agencies assess the effectiveness of

various policy interventions, such as rebates for water- and energy-efficient appliances, or system-wide strategies.

Aclara looks forward to continue working with the Energy Commission and water suppliers across the state to strengthen the state's drought resiliency and achieve significant long-term water and energy savings that also support the state's climate protection goals.

We appreciate your consideration, and stand ready to assist.

Sincerely,

On behalf of
ACLARA



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