



Fact Sheet

Water Loss Control in California: Role of the State Water Resources Control Board

Water Loss Control as a Key Piece of California's Water Conservation Policies

Faced with increasing stresses from climate change and population growth, California has committed to strengthening water conservation and efficiency. The [California Water Action Plan](#) commits Californians to making water conservation a way of life as a key implementation strategy to address water supply reliability. The State Water Resources Control Board (State Water Board) and Department of Water Resources (DWR) are developing standards, providing guidance, and developing technical assistance to enhance conservation and drought resilience.

Water systems can conserve large volumes of water by reducing the amount of water lost through leaks. Typical causes of water loss from leaks and bursts are aging infrastructure, external stresses such as high traffic loads or corrosive soil quality; or operational factors such as high pressure variation or corrosive water quality. Another form of water loss is lost revenue due to theft, inaccurate meter-reading, or billing errors. Reducing water loss helps build drought resilience, saves energy, and can delay or avoid the need for new supplies and infrastructure. Executive Orders [B-37-16](#) (May 9, 2016) and [B-40-17](#) (April 7, 2017) direct the State Water Resources Control Board and Department of Water Resources (DWR) to minimize water system leaks through direct regulation along with financial and technical assistance.

California Senate Bills [1420](#) and [555](#) (Wolk), passed in 2014 and 2015, respectively, set statutory requirements for monitoring for identifying, and reducing water waste in urban water distribution systems. The initial focus of these bills is to develop reliable water loss estimates through validated water loss auditing. Beginning in 2017, SB 555 requires urban retail water suppliers to submit a validated water loss audit report for the previous calendar or fiscal year to DWR on October 1 every year. DWR has a [rulemaking](#) for these reports and their validation. After obtaining reliable water loss estimates, water suppliers can determine the rate of leakage in distribution systems and develop cost-effective leak reduction and infrastructure replacement programs.

A water loss audit estimates distribution system losses due to leaks, bursts, billing or meter inaccuracies and theft, using the system's total water supply and actual consumption volumes. State law requires that urban water retailers conduct a water loss audit. State law also sets standards for how that audit is conducted, and requires that retailers use the M36 Manual for Water Audits and Loss Control Program and [Free Water Audit Software](#) by the



American Water Works Association. The accuracy of water loss estimates from these audits depends on the quality of entered data. The process of assessing the quality of data entered in the audit by using billing and metering records and practices is called Validation. Water audit validation also identifies operational practices that need improvement, for example, inadequate meter testing or record-keeping. By prioritizing effective monitoring, water loss auditing and validation together form the primary step in water loss control.

New Regulatory Requirements

The State Water Board will analyze data collected from urban retail water suppliers through the annual water loss audit submissions beginning in 2017. As required by SB 555, the State Water Board will develop performance standards for reducing water loss between January 1, 2019 and July 1, 2020. During this process, the State Water Board is required to consider life cycle costs of complying with these standards. The improved water loss estimates from the collected audits will be a crucial input to the State Water Board's process in developing feasible, yet robust water loss performance standards.

State-funded Water Loss Technical Assistance Program for 2016-17

The State Water Board approved funding of \$3.2 million in January 2016 for the California Water Loss Collaborative, which is executing a [Technical Assistance Program \(TAP\)](#) and Water Audit Validator (WAV) Certificate Program to aid water suppliers in producing validated water audits. The TAP was made available to all water suppliers at no cost for the year 2016-17. The objective of these programs is to improve state-wide water loss monitoring by urban water retailers and wholesalers, and educate smaller suppliers about water loss auditing and validation.

The TAP was conducted in four 'waves' consisting of workshops and teleconferencing sessions between water suppliers and water auditing experts. This program was partly modeled on a successful statewide water loss control program in Georgia. The TAP has registered an average enrolment from about 91% of all urban water retailers in the state.

A subcommittee of the CA-NV AWWA Water Loss Control Committee is developing the Water Audit Validator (WAV) certificate program to increase the availability of qualified validators in California. This program is planned to be launched in early 2018. This program will train participants to independently and effectively conduct the primary level of validation for water loss audits. This program is currently in the development stage.

Supporting Water Loss Control for Small and Disadvantaged Suppliers

The Governor's Executive Orders B-37-16 and B-40-17 order the State Water Board to utilize the Drinking Water State Revolving Fund for local projects to reduce water systems losses, after first addressing projects safeguarding public health. The Division of Financial Assistance at the State Water Board administers [funding](#) from the Drinking Water State Revolving Fund for planning or construction projects for leak investigation and repair, water auditing, and distribution system rehabilitation; such as installing or upgrading regular or advanced water meters, replacing pipes, or installing tanks and wells. After eliminating health risks in water distribution, priority is given to systems in disadvantaged communities with high

water loss or that are un-metered. The Division of Financial Assistance also conducts outreach activities for Small Water Systems to provide technical assistance in implementing successful drinking water projects.

DWR provides leak detection equipment for short term lease to all water suppliers at the [DWR Regional Offices](#) and will provide technical assistance for water loss detection programs, such as techniques for metering, pressure management, condition assessment for pipelines, and use of water loss detection devices to urban retail water suppliers.

Additional Information

All Urban Water Suppliers, including wholesalers, have been required by [SB 1420](#) to quantify and report their annual distribution system water loss through [Urban Water Management Plans](#) every five years since 2015. . They are required to provide a narrative describing the implemented or proposed demand management measures for water audits, leak detection and repair and the effectiveness of these measures reported in these plans.

Detailed concepts of water auditing, the top-down water balance, audit validation and loss control are available through the [American Water Works Association](#), [International Water Association](#), [U.S. Environmental Protection Agency](#), and [Water Research Foundation](#).

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