

## Water Loss Control

Water loss control encompasses those practices and programs that a utility should be conducting consistently throughout the year to create a culture of efficient water resources management from production to tap—including key tasks of daily [data collection](#), [management](#) and assessment; [infrastructure maintenance and updating](#); [leak detection](#) and management; and [annual water auditing](#). Utilities are obligated to conduct water loss control practices and programs in a standardized, proactive manner - that utilizes best practices that are economically justifiable and appropriately mindful of the limitations of the resource. Only with accurate, current, utility specific data can assessments be made by the organization that support business decision-making and protect the interests of the rate payers. For this reason, water loss control is a continuous process that is integrally linked to the [planning activities](#) that are conducted on a regular basis by the utility.

There are four primary reasons for strong water loss control procedures:

- To limit unnecessary or wasteful source water withdrawals;
- To optimize revenue recovery and promoting equity among ratepayers;
- Minimize distribution system interruptions, optimizing supply efficiency and generating reliable performance data; and
- Maintain system integrity.

Specific benefits include:

- Reducing apparent losses
- Reducing real losses
- Improving data integrity
- Better use of water resources
- Increased knowledge of distribution system
- Increased knowledge of customer water use, and metering and billing systems
- Safeguarding public health
- Improved public relations
- Reduced liability
- Reduce disruption to customers
- Improves reviews from financial community

Water utilities have long suffered from a variety of losses and inefficiencies related to providing potable water to their customers. According to the AWWA, most operators recognize piping distribution system leakage, categorized as *real losses*, as a primary type of loss. However, water suppliers also suffer losses from poor accounting, meter inaccuracies and unauthorized consumption. These losses are collectively labeled *apparent losses*. Both real and apparent losses have a negative impact on revenue and consumption data accuracy. It is essential that system operators employ means to control these losses.

A survey was conducted for the AWWA in 2002, which found that water utilities use widely varying language and methods to track what many call unaccounted for water, and that the use of this term is vague and subject to interpretation. For example, many utilities have routinely included volumes of known leaks in accounted for water, thus underestimating actual leakage or real losses. In attempting to gather voluntary data from large water utilities, one state agency found that water utilities that earnestly attempt to audit their supplies report real and apparent losses that are less flattering than counterparts that reported unrealistically low losses with no substantiation of their data (McNamee, 2002).

This type of gamesmanship reflects poorly on the US water industry, however, the AWWA has developed a better system of accounting for water utilities to detect and repair systems with both real and apparent losses.

The recommended system of water loss accounting includes two key tasks – data collection (through specific auditing methods) and data analyses (using water balance calculations). Each of these is described further in the next level of the Tool Box.

[Water Audit Methodology](#)

[Data Analysis/Water Balance Calculation](#)

## Resources

[American Water Works Association Water Loss Control Page with Link to Free Software](#)

[American Water Works Association M-36 Manual \(Water Audits and Loss Control Programs\)](#)

[EPA Control and Mitigation of Drinking Water Losses in Distribution Systems](#)

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