WATER LOSS CONTROL

Setting Program Goals

Benefits

If a water utility is going to begin a water loss control program, it should clearly define and understand its goals for the program. There are many reasons a water utility may want to start a water loss control program. The American Water Works Association has identified twelve benefits of water auditing and loss control in the M36 Water Audits and Loss Control Programs manual, fourth edition. These benefits include:

Reduced apparent losses	Reduced real losses	Improved data integrity
Better Use of Available Water Sources	Increased Knowledge of the Distribution System	Increased knowledge of the customer metering and billing systems
Safeguarding of public health and property	Improved public relations	Reduced liability
Reduced disruption to customers	Improved asset management	Favorable reviews from the financial community

There are certainly other reasons to start a water loss control program. But understanding the potential benefits of the program can help guide a utility when setting its goals for the program.

The Water Loss Control Program Goals should define what can be expected from the program. The goals of the program should drive the decision making for the program. For example, if your goal is to reduce real water loss by 10,000 gallons per month, you will likely first focus on your source meters. If your goal is to reduce theft, you will likely first focus on customer meters.

When defining your utility's goals, remember to write goals that are meaningful, measurable, consistent, useful and unique (as shown in the table below). This will allow the utility to track its performance, show successes and failures and revise for improvement each year. Goals can be changed or adjusted over time. Goals can also be added or removed from the list.

Meaningful	Relevant to staff and stakeholders Provides a clear picture of performance
Measurable	Can be measured in a cost-effective manner Expressed as a qualitative or quantitative measure
Consistent	Consistent with industry practice Measurement is reproducible by others
Useful	Helps manage the utility Encourages improvement
Unique	Describes a specific attribute of utility services or activities Independent of other levels of service

It's important to involve a variety of staff in the process of establishing the goals or service levels. Progress towards meeting the goals should be tracked and reported to upper management and the public.

Determining your goals should not be overwhelming. Keep it simple; develop 2-4 goals around the most important aspects for your utility. The information below can be used as a resource in setting your utility's goals.

Examples

Presented below are some examples of the types of goals a utility may set. The target levels included in the goals below (highlighted in the gray boxes) are examples and can be changed to meet the needs of the water utility.

Audit Specific

- Using AWWA's M36 Manual and Water Audit software, the utility will perform a water loss audit annually; will use the audit to assess overall non-revenue water as well as the categories of non-revenue water; and develop cost-effective (or appropriate) strategies to reduce non-revenue water.
- If using AWWA's Free Water Audit Software (FWAS) v5: The water utility will utilize FWAS v5's Grading Matrix to determine next steps to improve data quality. Once the data validity score has increased 5 points, the next steps will be reassessed.
- If using AWWA's Free Water Audit Software (FWAS) v6: The water utility will utilize FWAS v6's data grade limiting factor information and Water Loss Control Planning Guide (located on the Loss Control Planning tab) to determine next steps to improve data quality. Once the data validity score has increased to the next higher Data Validity Tier, the next steps will be reassessed.
- The water loss control audit will be validated (level 1 validation) by a third party every 2 years and self-audited every other year.

Billing

- Billing accuracy will be improved over the next 2 years by decreasing the total number of error-driven billing adjustments by 10%.
- The percent of customers that pay regular bills without intervention will increase by 5% within the next 2 years by adding web-based bill paying technology.

Leaks

- The type and duration of leaks from mains addressed by the utility will be tracked in the file FILE NAME.EXT
- The water utility will begin tracking water main and service line leak data within the GIS system and compare the data to the water loss audit annually.
- The water utility will begin a leak detection program within 2 years.

Meters

- The utility will improve data quality related to water sources by implementing a master meter testing and calibration program within 2 years.
- The percent of Customers with Automated Meter Reading (AMR/AMI) will increase by 10% per year until 100% capacity is realized.
- The water utility will begin a meter replacement program that replaces 10% of the meters every 10 years so that no meter exceeds 10 years of age.
- The utility will improve data quality related to water sources by implementing a master meter testing and calibration program within 2 years.
- Master meters will be tested and calibrated annually.

Real Loss (Note that percentage loss indicators are no longer recommended by AWWA)

- The water utility will begin a leak detection program within 2 years.
- The water utility will lower real water loss by 10,000 gallons per month within 2 years.
- The Unit Real Losses in gal/conn/day (any KPI could be used here) will be reduced by 1 gal/conn/year for each of the next 5 years.
- The Real Loss Cost rate will be reduced to below $65/conn/year by 2025.

System

- The length of the water pipe network will be updated in the GIS map with each new pipe installation and shall include pipe within the service area in miles including the length of transmission and distribution mains of all diameters and also include fire hydrant lead pipe (but does not include water service (customer connection) lines).
- The water utility will reduce water pressure in areas exceeding 100 psi within 2 years,
- The water utility will identify areas of theft by reviewing usage data, setting alarms in the billing system, evaluating alarm locations, randomly visiting meters to identify tampering, and reviewing fire hydrant usage.
- The water utility will begin a valve exercising to program that operates all valves on a 5-year cycle.