

DEQ / ORWA Water Loss Auditing and Control Program

Since 2015, DEQ has worked with the Oklahoma Rural Water Association (ORWA) to help Oklahoma water supplies understand, track, and reduce non-revenue water via the Water Loss Auditing and Control Program. The program, provided free of charge, combines water loss auditing performed in accordance with the American Water Works Association (AWWA) M36 method with boots-on-the-ground leak detection assistance in a one-two punch that has delivered impressive savings in both water and revenue for participating systems. The goal is to help Oklahoma community water systems find and control where water is not generating revenue for the system. DEQ and ORWA personnel will work with participating water systems to locate leaks, assess metering efficiency, and quantify unbilled usage to determine the most efficient and effective ways to save both water and revenue.

What is a water loss audit?

A water loss audit is a tool to help identify and quantify all water moving through a water distribution system. It is an accounting of all the water produced, sold, consumed, and lost in a water system. A water loss audit indicates the volume and value of water that is lost due to faulty meters, data handling errors, and unauthorized use (apparent losses), how much is lost due to leaks and overflows (real losses), and what the system is giving away in unbilled authorized usage. DEQ and ORWA perform water loss audits according to the AWWA M36 method and using AWWA software.

How is a water loss audit performed?

Program personnel will meet with participating systems and perform top-down water loss auditing using the IWA/AWWA method and software, considered to be the industry standard for gauging water loss. The audit will use the software to calculate real and apparent water losses using system characteristics such as miles of main and pressure, as well as metering and billing data routinely gathered by the water system. The audit is usually completed in a matter of hours and the results are available immediately.



How much does participation in the program cost?

The program does not charge a fee to participating Oklahoma community water systems. The water audit software will also be provided to the system at no cost. Equivalent services provided by a private consultant can cost several thousand dollars.

How can working to reduce water loss and non-revenue water benefit a water system?

1. Without a water loss audit, it is difficult to determine exactly how much water is being lost from a distribution system and how much revenue that lost water represents. This program can help water systems pinpoint which portions and structures on a distribution system have significant losses and help locate billing and metering inaccuracies that were previously unknown. This knowledge allows a system to make strategic decisions about infrastructure management and improvement, thereby maximizing return on investment.
2. It conserves a limited resource. In drought-stricken areas, reducing water loss helps water systems use water more efficiently. The information gained from the program allows system operators to target repairs where they will be most effective. This can potentially reduce, or even eliminate, the need to find new sources of water and extend the useful life of existing sources.
3. It restores lost revenue. A water system may be completely unaware it is losing a significant amount of revenue due to real loss, apparent loss, and unbilled usage. Participation in this program can help quantify how much revenue is being lost and help restore that revenue by determining exactly how much can be saved by repairing lines, replacing inaccurate meters, correcting billing errors, and control unbilled usage. This gives the system operator the information to determine which repairs or operational practices are most cost-efficient. Many of the billing and metering problems uncovered by an audit are immediately correctable, resulting in instant increases in revenue. Reducing water lost through leaks and unauthorized uses restores additional lost revenue and lowers operations and maintenance costs, resulting in additional savings.
4. It shows customers your initiative. Controlling water loss is an important step in improving a system's sustainability. A water system that takes the initiative to improve sustainability by building an effective water loss program may inspire customers to pursue their own conservation and efficiency plans, adding to the water system's sustainability efforts.

Will you demonstrate how to conduct our own water loss audit, find leaks, or analyze meters?

Yes! During the audit, program staff will demonstrate how to use the AWWA software so that water system personnel can conduct their own audits. DEQ recommends annual audits and will assist water systems once they begin conducting audits on their own. ORWA staff will also conduct hands-on training during the leak detection and meter analysis phase of the program to share knowledge and skills with system staff.

Will information gathered from the water loss audit be used in enforcement?

The purpose of this technical assistance is to increase the efficient use of water and revenue and enhance sustainability for water systems. Information is not being gathered for enforcement purposes.

How can my system participate?

If you would like to participate in DEQ's Water Loss Auditing and Control Program, or if you have questions please contact the Capacity Development Section of the Water Quality Division at (405) 702-8100.