

Appendix T: Examples of a Water Loss Control Action Plan

Example #1:

Our water system established a supply-side goal to reduce Distribution System Leakage (DSL) to less than 10% by 2010 or within 3 years after becoming fully metered. We finished installing water meters on all connections and city-owned facilities in April 2010. The DSL was at 20% for 2008 and was reduced to 19.2% in 2009; which is a savings of 1 MG per month on average.

We have been very active in taking steps to help reduce the DSL, such as repairing leaks when they are found or when we are notified, and replacing older water lines and leaking valves. We also set up a meter replacement schedule for the larger outdated commercial and industrial water meters; which is expected to be completed in 2012.

As a result of replacing these meters, we expect our revenue to increase from more accurate measurements. The city has taken steps to verify the collection of the monthly data and to have the source meters calibrated for accuracy. We plan to propose a 1% rate increase to our city council this spring to cover the expenses of needed infrastructure improvements to reduce DSL. We are concerned with the amount of DSL and committed to finding, repairing, and meeting the established system distribution leakage standard by 2013.

Example #2:

Summary

The Water Department is effectively working to reduce our Distribution System Leakage (DSL). We established a supply side goal to reduce DSL from 15.2 % to 12.5% by 2013. We expect to achieve 10% or less DSL by 2015.

Finding Apparent Losses

The first step is to find out more about our apparent losses by obtaining more accurate data. To do this, we aim to resolve our method of reading meters this year. We installed radio-read meters last year to obtain more accurate consumption data year-round because we didn't read manual meters during the winter. We also plan to implement a system to account for the un-metered authorized water consumption, like hydrant flushing. Last year, we identified an unauthorized connection without a meter tapped into the system. The situation has been corrected and we continue to look for and remove any unauthorized consumption.

Finding Real Losses

Another priority of ours is to identify sources of water loss within our system. Our leak detection survey has been a great success. Initially in 2007, our calculated leakage was over 22%. We have reduced that to an average of 15% in 3 years and established future goals to reduce it to less than 10% DSL by 2015.

We had a company perform a leak detection survey in 2009; the results of that survey prompted us to replace 750 feet of water main. We also discovered many deteriorated service line connections (between the main water line and service lines to customers), and we have replaced or are working to replace those lines next year.

At this time, only two of six city-owned buildings/facilities have meters installed. We will install meters on those other four facilities by 2012.

We also have planned a new metered filling station for water trucks and the Fire Department. This will help us track previously unmetered authorized uses for trucks for cleaning streets, fire fighting, or construction.

In addition, we have taken the following measures to reduce the annual volume of water loss:

1. Resolution #304 enforces a \$500 fine for unauthorized fire hydrant use.
2. Upgraded meter telemetry capabilities and reliability for increased monitoring of water production.
3. Calculating distribution system leakage twice a month as well as the required annual calculation.
4. Quick and efficient response by staff to all known distribution leaks.
5. The replacement of aging and unreliable watermains.
6. An annual leak detection program that will survey a minimum of 25% of our watermains every year until compliance is achieved.

Funding Our Water Loss Program

The water department staff and city council have made both a financial and philosophical commitment to using our water effectively and wisely, now and into the future. Through both changes to our rate structure and actively seeking out loans for needed system improvements/repairs, we expect to meet our DSL reduction goal. We will achieve this by:

- Enhancing Our Conservation Billing Structure – Our rates are designed to reward conservation and penalize over use. We adopted a third tier to the existing two-tiered rate billing system. Those customers in the third tier will now pay more for excessive water use, which will help fund our WUE program and provide general financial viability for our water system.
- Seeking Funding Opportunities: We will actively seek funding to repair our aging infrastructure, which is over 50 years old in some areas.