Water Round Up

September 2010

Specialists in Recovery of Non Revenue Water and Lost Revenue

In This Issue

The NRW Problem:

Millions of Gallons of Non Revenue Water

Millions of Dollars Spent On Treating a Symptom Rather than Solving the Problem!

Not all Meter Replacement Programs are Cost Effective!

Not All Leak Detection Programs Are Successful!

JBS Offers Cost Effective, Long Term Solutions!

What is the cost of NRW?

In 1923, Marvin Turner who then was the superintendent of Water Distribution for the City of Austin, Texas presented a paper at the 25th Texas Water Short School, and summarized the following major areas of water loss:

1. **Underground leaks from mains, services, valves and fire hydrants**
2. **House wastage and fixture leakage**
3. **Leaking pressure boundary valves**
4. **Meter registration**
5. **Unauthorized use**

Guess what? – 87 years later water utilities have the same concern as they had in 1923. The terminology for unaccounted for water, leakage, meter error, allowable leakage and unauthorized usage may have changed, but the financial impact and the solutions to these problems have not. At the end of the day it is the economic benefit and water conservation pressures that drive the remediation programs.

Water utilities have spent a lot of time and money on NRW issues, and for many, the problems have not been resolved. Operation costs were not reduced nor revenue increased. Why?

Our experience shows that *not all* meter replacement and leak detection programs have been cost effective or successful. In addition incorrect $ values are sometimes assessed on the various components of water loss. For instance, when dealing with real losses (leakage), the direct cost of that water loss should be the base production cost, not the retail water rate. The base production cost includes purchase price (if any), chemicals, and energy costs to treat and pump the water. A common error that utilities make is to apply a retail rate on the volume of real losses, in the belief that if they stop a leak they will sell that water. For most water systems that is a misleading assumption. The immediate impact of a permanently fixed leak is reduced operation costs or conservation of resources (unless the utility has a "take or pay" agreement and does not exceed the agreed volume of water use). If the water loss associated with repaired leaks is truly stopped, the direct value of that loss should be calculated on the base production costs alone. Base production costs should not include administration, labor or "intangible costs" such as water plant expansions, lawsuits, etc. Intangible costs are variable and may or may not occur.

Unfortunately many water systems apply a retail rate to the real or physical losses and consequently fall short of the projected financial benefit of their NRW reduction program.

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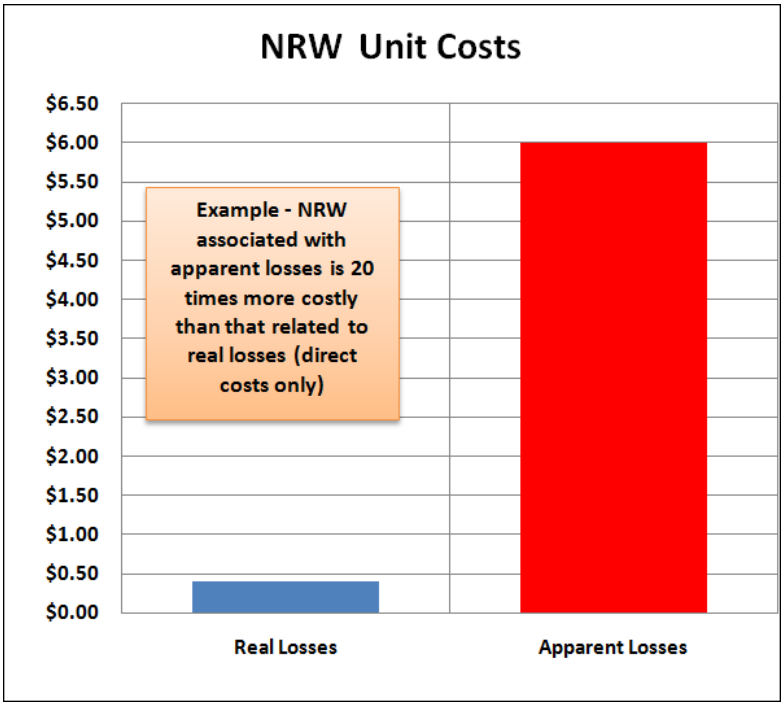
Is a Meter Sizing Problem contributing to lost Revenue?

Apparent losses (meter error, meter reading problems, theft, meter sizing, etc.) have a value equal to the commodity charge of water and sewer. The commodity charge for sewer should be included since the sewer department receives its revenue based on the accuracy of the water meter. For that reason many water utilities require that meter replacement/maintenance costs are shared by the sewer department.

The following chart provides an example of cost per 1000 gallon unit of real losses versus apparent losses.



It is not uncommon to see 10 to 30 times differential between the base production costs and the commodity charge per 1000 gallons for water and sewer. If a water utility has a base production cost of $0.30 per 1000 gallons and a retail rate of $6 per 1000 gallons for water and sewer, the cost factor is 20 times. In other words, in terms of direct cost only, the utility could lose 20 gallons in leaks to one gallon in meter error and have the same economic impact. Keep in mind that the direct cost does not take into consideration cost of leak repair, water conservation or other intangible factors.

At JBS, in our water audits we take a hard look at the cost benefits of all our recommendations. In these times of tight budgets and conservation pressures, accurate NRW cost projections are essential to establish effective programs that provide a return on investment.

The following are a few pictures taken this summer along Cumbres Pass on the New Mexico-Colorado border, the Great Sand Dunes north of Alamosa, Colorado and Bandelier National Monument, north of Santa Fe, New Mexico.

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Utilities should implement an in-depth water audit and not just a "paper" audit.

In this time of fiscal concerns, the cost benefits and revenue enhancements derived by conducting a full system Water Audit are more crucial than ever.

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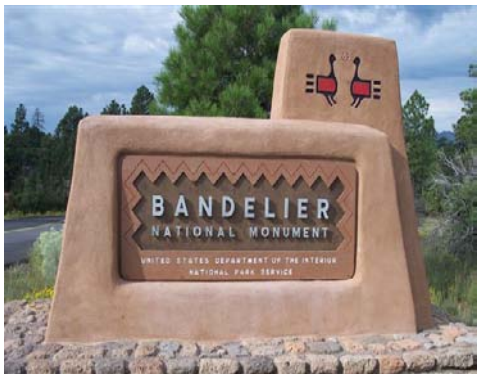
JBS Does Not Sell Products or Participate in Revenue Sharing Programs.

We have nothing to gain from our recommendations, but their successful implementation by our clients.



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JBS Associates offers a no-fee cost analysis. This review establishes the cost benefits of conducting a full Water Audit and Meter Management Analysis. Contact us for further information by calling (281) 435-2780 or emailing at jbsmith@jbswater.com.