

“Leakage2005”

Topic: Canadian water utilities make progress on water loss management through national benchmarking of water loss data and the development of performance improvement initiatives based on best management practices.

Title of Presentation: **Canadian Utilities Learn to Fly through Benchmarking of Water Loss Management**

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Abstract:

Would you fly an airplane without an instrument panel? Of course not. So why would a water utility attempt to manage, direct and improve highly technical and at times, complicated processes without data that is timely, meaningful, comparable and accurate. The old adage “You can’t improve what you don’t measure” holds true for measuring water loss performance.

When the National Canadian Water and Wastewater Benchmarking Initiative began benchmarking water utilities in 2001, unaccounted for water was seen as a minor issue that related primarily to leak detection.

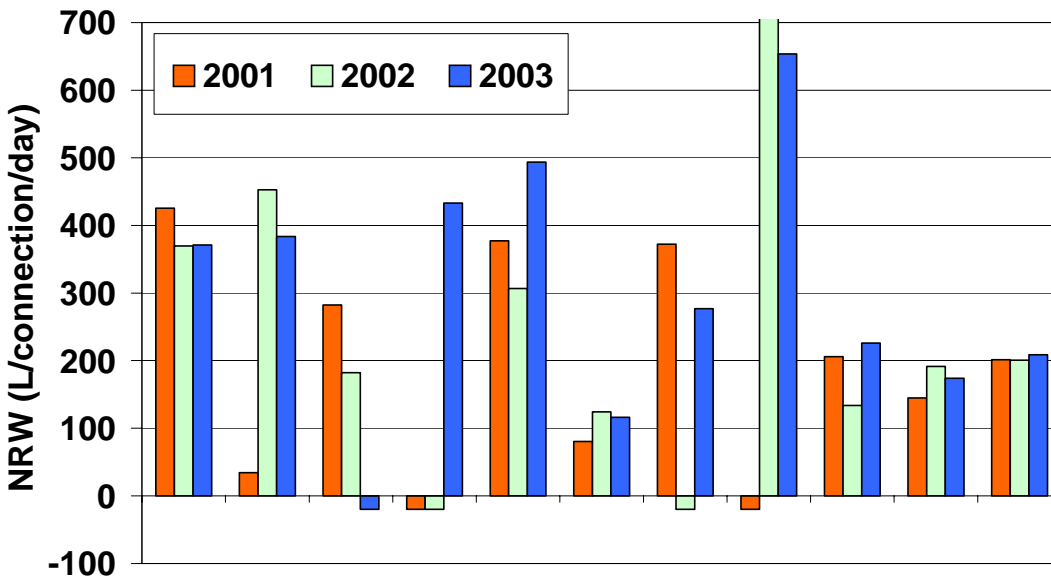
Back then, only a handful of the utilities were able to calculate their “*Unaccounted for Water volume*” and many replied “We don’t have customer meters so we don’t know” or “We don’t know but estimate it to be 20% of supply”. Some even stated that they had no water loss and 100% of the water distributed from the plants was delivered to their customers.

But unaccounted for water, or non-revenue water, as it’s commonly referred to today, is more than just leak detection. Addressing non-revenue water through water loss management is intrinsically linked to how water utilities operate and perform. Far from being an issue that only relates to the goal “Protect the environment”, water loss management spans across almost all of the goals used in the initiative’s utility management model, including “Reliable and Sustainable Infrastructure”, “Minimum Sustainable Cost”, “Sufficient Quantity” and “Satisfied Customers”.

Today, 30 of Canada’s most progressive municipal and regional water utilities use a common terminology of “Non-revenue water” (NRW). Performance measure graphs are updated on an annual basis and show non-revenue water measured in m³/km/day for transmission only systems and L/connection/day for integrated and distribution only systems. For 2003, 75% of the integrated and distribution only systems provided data on these measures. The 2003 graph for integrated and distribution systems with a system length greater than 700 km is shown in Figure 1 below. With time, the group intends to progress to more advanced NRW performance measures such as the Infrastructure Leakage Index.

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Figure 1: 2003 Non-Revenue Water (L/connection/day)
Integrated and Distribution Systems > 700 km



Supporting data is also collected on water loss management issues such as water main breaks, main break response time, length of main replaced and annual leak detection programs.

It began with collecting and comparing numbers on an annual basis. As the project moves forward, participants have adopted a “Mission: Performance Improvement” slogan to reflect their goal to use the Benchmarking data more proactively for performance improvement. For the March 2005 National Benchmarking Summary Workshop in Montreal, participants brought the results of performance improvement initiatives for presentation and discussion. The focus of the workshop breakout sessions was for utilities to leverage from each other’s progress, exchange ideas and develop action plans to implement best management practices in their organizations.

Several participant utilities brought their water loss reduction strategies to share with the group in Montreal. The City of Calgary presented their demand side management strategy, of which water loss reduction is a key component. The City has made a strategic choice to meet future water needs by reducing per capita water demand through a range of initiatives (metering, leak reduction, periodic watering restrictions, etc). The overall goal is to service a future population of 1.5 million in 2032 with no increase in total water consumed, requiring an average per capita reduction of more than 30%.

Today, the Canadian water utilities participating in the National Water and Wastewater Benchmarking Initiative understand the importance of rigorous utility benchmarking. Now that they have numbers for water loss, they can learn to “fly” their utilities to improve water loss management through data monitoring and sharing of best management practices.

