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Let's Solve Water

Case study
Intelligent meter management
Apparent water loss management
Lost revenue recovery

Clayton County Water Authority, Georgia

PROACTIVE WATER AUTHORITY REDUCES APPARENT WATER LOSS AND IDENTIFIES OVER $1 MILLION IN ANNUAL LOST REVENUE BY DEPLOYING INTELLIGENT METER MANAGEMENT SOLUTION

Clayton County Water Authority (CCWA) is a good example of a utility that doesn't let a confined geographical footprint stop it from thinking outside the box. As one of Georgia's smallest counties in terms of land size area (only 143 square miles), its location near the top of a regional watershed means it has little area to gather precipitation into streams and rivers. With limited water supplies available in its own catchment area, CCWA is increasingly recognized as an industry leader for proactive water management approaches. Recently CCWA demonstrated this proactive mindset by instituting a program that would harness the power of data analytics to achieve benefits such as increased revenue, better customer care and wiser capital spending – all by targeting an invisible source of system leakage: apparent water loss.

Challenge

Located in a state with some of the strictest efficiency and water conservation regulations in the country and a growing population, CCWA has been addressing water loss across its entire system. Apparent water loss (defined as water that is consumed, but not properly measured, accounted for or paid for) is a significant source of revenue leakage for many utilities. On average, about 5 percent of retail water is not registered at the meter, or unbilled for, representing approximately 2 percent of a utility's top-line revenue.

In looking for an innovative solution to address these issues, CCWA partnered with Xylem to develop a meter management program to quantify its ongoing state of apparent water loss. Traditional approaches to meter replacement focus on factors such as random testing, age, and water loss balance reviews, usually conducted annually. This approach is inappropriate because meter degradation is not strongly correlated to any of these factors, and replacement strategies based on sampling techniques leave bad meters in the field while throwing perfectly good ones away, making it hard to tackle apparent loss in a capital-efficient way.

CCWA was open to exploring new solutions using intelligent monitoring and management tools that allow them to undertake a prioritized, economically-justified meter replacement program. They refused to follow the status quo of random or time-based meter replacement, and instead were driven to identify customer metering



Program highlights

- Over $1 million of recoverable revenue identified through meter inaccuracies over a four-year period
- Identified average revenue loss of $6 (residential) to $67 (non-residential) per meter per year
- Meter under-registration identified as largest contributor to apparent water loss
- Realized short-term gains possible by concentrating on non-residential meters
- Results indicated majority of under-registering meters failed at low-flow meters

Services provided

- Intelligent meter management
- Apparent water loss management
- Lost revenue recovery

accuracies, quantify the apparent water loss and improve operational efficiencies – all without raising rates.

Solution

CCWA embraced a data-driven approach to quantify their water balance and gain a better understanding of apparent losses. Once they identified their non-revenue water issues, they could make intelligent decisions on rates and capital expenditures.

As part of a two-phase program, CCWA analyzed its entire metering operation with the help of Xylem's **Hidden Revenue Locator** solution. The online cloud-based analytics solution helps identify and rank customer meters within their system that are losing revenue due to meter degradation. This information would allow CCWA to prioritize a meter testing and replacement program, maximize revenue recovery and realize operational efficiencies. With this intelligent solution, potential issues are identified at the meter-level on an ongoing basis, and an online dashboard would allow CCWA to view prioritized issues, ranked by the total volume and revenue discrepancy per meter.

"The analysis gave us a better understanding of our system. It was eye opening to see…the creative approach to data presentation and variety of formats makes the report easy to interpret whether you're a data junkie or not."

CCWA General Manager

For CCWA, the data successfully demonstrated which meters were under-registering, in addition to revealing that meter under-registration was their biggest source of apparent water loss. Armed with this information, CCWA was able to focus their resources to addressing this issue, prioritizing action and capitalizing on recouping revenue losses.

Outcome

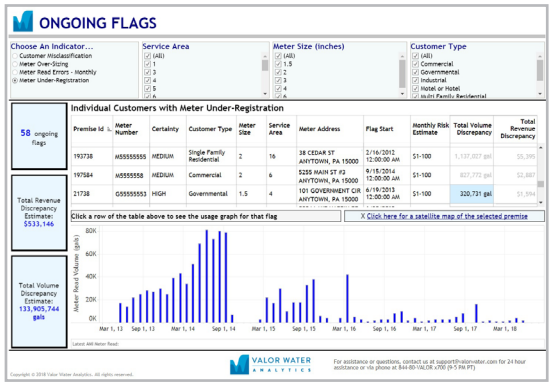
In just over 4 years, the Hidden Revenue Locator solution has already **identified over $1 million in annual lost revenue due to meter inaccuracies**. On a per-meter basis, the meter management solution has flagged revenue loss on average of $6 for residential meters and $67 for non-residential meters per year.

Armed with this information, CCWA prioritized its meter asset management program, focusing on the meter category where the largest revenue losses had been identified. Not only has the data given CCWA a better understanding of its apparent water loss issues, it provides a path forward to recover significant revenue lost because of under-performing meters.

When compared to the random meter tests previously performed by CCWA, **the Hidden Revenue Locator delivered a four-fold improvement** in identifying meter-registering gaps, uncovering even more lost revenue. Based on the data and recommendations provided by Xylem, CCWA was able to defer capital replacement dollars, identify and address apparent water loss across their system, and focus efforts on other priorities.

That's the power of decision intelligence.





An online dashboard allows utilities to view prioritized issues, ranked by the total volume and revenue discrepancy per meter.

"By leveraging this pioneering technology CCWA is now receiving powerful data on apparent water loss issues, enabling us to prioritize action, capitalize on revenue enhancement, and enhance business process efficiency and customer care."

CCWA General Manager

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