



Above: Historic Etowah Indian Mound;
Below: Etowah River

A Successful Measure

By Dan Pinney

Georgia utility improves conservation & customer service with smart water network

Nestled between Lake Lanier and the Appalachian Mountains, about an hour north of Atlanta, is the Etowah Water & Sewer Authority. Chartered in 1980, the authority serves 5,400 consumers and runs 1.5 million gal of water per day through 175 miles of pipe. The utility is committed to delivering on its mission to improve the quality of life of its customers, community and the environment.

Like many other public service providers across the nation, the authority is dealing with the negative impact of recent droughts. It needed a solution that would help conserve limited water resources and solve the issues caused by aging infrastructure. Furthermore, it recognized that this solution needed to provide measurable results that would enhance customer service and provide cost savings for the utility as well as its customers.

To meet these challenges, the utility implemented accurate meters and a smart water network. It constantly measured the program's success and made adjustments along the way, always looking for ways technology could help it reach further. This story of innovation is a model for other public service providers facing similar challenges.

Implementing a Smart Water Network

To address its aging meters, the authority decided to implement a complete replacement program that would not simply replace all existing meters, but also favorably position the utility for years to come. Specifically, the authority looked for an advanced metering infrastructure (AMI)

solution that offered improved accuracy, greater longevity and forward-looking capabilities, allowing the organization to grow and develop as the future warranted.

Two-way communication between the meters and base stations was a primary driver, as were overall costs and a clear, quick path to achieving return on investment (ROI). In addition, the utility sought the type of relationship that would help ensure success—that of a partner, not just a vendor.

The authority selected Sensus for its FlexNet communication system and iPERL meters, which offer low-flow accuracy with high-flow durability, plus a 20-year warranty. AMI connectivity gives the utility two-way communication capabilities and the ability to read meters every hour. Because of the service area's mountainous terrain, powerful, long-range radio capabilities were necessary to ensure reliable communication.

"The benefits of the smart water network are incredible. The accuracy of the iPERL meter is [impressive], as is the range of FlexNet," said Brooke Anderson, general manager for Etowah Water & Sewer Authority. "In fact, some of our meters are registering from eight miles away in hilly terrain."

Measuring Against Priority Outcomes

The authority measured results against three metrics: customer service, conservation and reduction of non-revenue water.

Since the deployment, customer service has been successful. The utility currently is developing Customer Connect, an online portal that will allow customers to access their accounts and view their consumption rates over a 24-hour period, making billing and water usage more transparent. Alerts triggered by unusual or continuous usage patterns also warn customers of possible leaks before there is extensive use and possible damage to their residences or businesses, resulting in significant cost savings.

"Now, we're able to have intelligent, fact-based conversations with our customers," Anderson said. "When they call questioning high bills, we're immediately able to ask the right questions about their usage and remind them they filled their swimming pool last Saturday. We're also able to catch probable leaks within 24 hours, and can proactively alert the customers so leaks can be fixed before a big bill arrives in their mailboxes or possible damage is done to their homes."

Given the area's drought or near-drought conditions in recent years, the utility focuses heavily on conserving and protecting limited water resources. Aside from leak detection capabilities, the FlexNet system gives the authority the ability to accurately read the lowest usage flows, ensuring customers are correctly billed for all the water they use.

Increasing Revenue

The deployment has opened the door to the possibility of new rate structure options in the future to further enhance conservation efforts. The increased accuracy of the meters also impacts revenue for the authority by accounting for low flow that went uncaptured in the past. All of this adds up to a significant and timely ROI on its smart water network.

"The improved accuracy from our smart water network has given us a 5% increase in revenue without a corresponding rate increase," Anderson said. "Even by the most conservative measures, a meter conversion with Sensus will provide a complete ROI in less than five to seven years. We are very pleased with both these numbers and our decision to deploy this solution." **w&wd**

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