

In the Field

PRACTICAL SOLUTIONS TO COMMON PROBLEMS

Optimize AMI With an Asset Management Program

BY SCOTTY WILKINS AND DAVID PRICE

The Town of Surf City, N.C., is located on Topsail Island, a barrier island situated south of the Outer Banks. Its clean and uncrowded public beaches, family-friendly atmosphere, wide range of amenities and services, and mild climate make the town a wonderful place to live and a popular destination for vacationers. The town recently implemented advanced metering infrastructure (AMI) technology to modernize—and futureproof—its water system.

Although Surf City is considered a small community with a population around 4,000, US Environmental Protection Agency calculations suggest the population is closer to 10,000 full-time residents. And in the summer, the population booms up to 40,000. Surf City has 4,700 service connections in its water system, and a lot of them are rental houses with at least 54 move-ins/move-outs per month. Because of the variable seasonal population, it was critical to properly account for water usage over specific periods and ensure that billing is accurate and timely.

MOVING TO AMI

In its earlier days, like many other communities, Surf City relied on manual reads of its water meters. Around 2006, the town decided to modernize its system by installing new water meters and transitioning from manual reading to an automated meter reading (AMR) system.

However, around 2020, the town started experiencing problems with the AMR system, reporting around 300 re-reads per month, 230 meter-related work orders, and poor accuracy performance of its water meters after 14 years of service.

These problems were further compounded by the lack of human resources available to maintain the meter reading system on a daily basis. The utility's customer service response was reactive. With only one meter-read per month, problems could quickly escalate. Customer

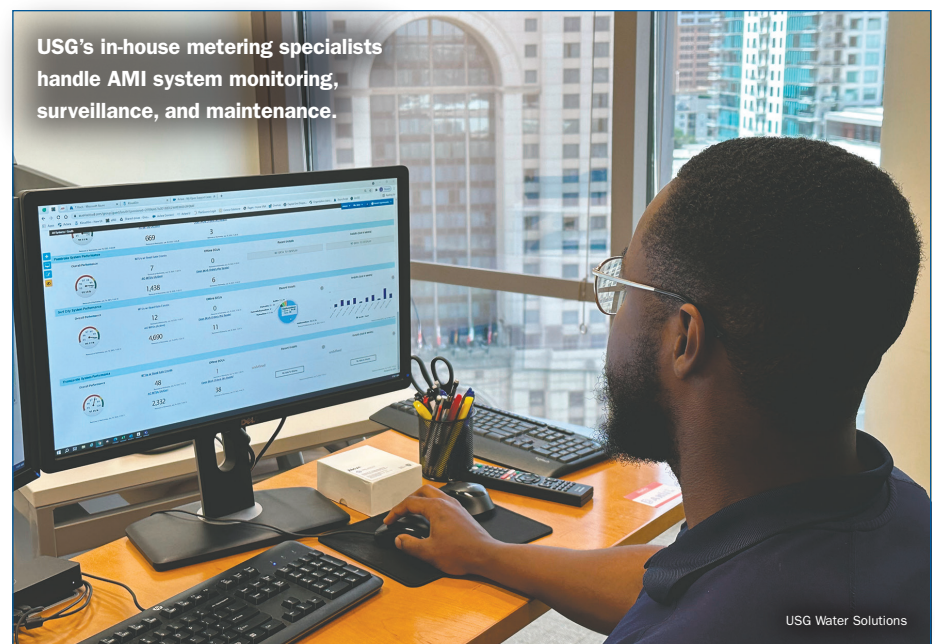
complaints rose as a result of costly water bills, some of which could be attributed to undetected leaks and other problems, as well as metering inaccuracies. In addition to these challenges, the town was experiencing a high level of nonrevenue water at 30% plus.

THE SOLUTION

With hourly reads and two-way communication, Surf City's new AMI system transformed reading and billing processes as well as reshaped customer service and other operations from being reactive to proactive. The system also eliminated costs for re-reads, move-ins and move-outs, and meter-related work orders.

The town selected USG Water Solutions to implement the system because it offered a turnkey solution, was agnostic in its choice of AMI network and water meters, and provided resources to manage and maintain the system. Although typical responses to the town's request for qualifications process focused solely on the AMI technology, USG stood out by including an asset management program with maintenance in its proposal. The company also had experience and insights into the project, as the company had already managed the maintenance of Surf City's water tanks.

USG provided the water meters, transmitters, communications network, software, and installation with testing to fully implement the AMI system. Through its asset management program, the company's in-house metering specialists handle system monitoring, surveillance, and maintenance, ensuring the read rate percentage of the AMI network stays above 99%.



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Any water meter that doesn't provide a read is logged and tracked daily. If a meter doesn't provide a read for five consecutive days, the company sends a work order to its nearest service center for a field technician to schedule a maintenance visit. Company analysts also look for abnormal consumption events and notify the utility immediately if any are found. As part of the program, the company maintains every aspect of the AMI system for up to 15 years.

BENEFITS

Surf City town leaders and residents are already realizing numerous benefits from the AMI system, including the following:

Utility Results. The system has reduced nonrevenue water and increased revenue.

Surf City's nonrevenue water loss was at 30% before it switched to AMI, and it's now down to 6%. That has prevented a rate increase for the general public.

Resources Management. The system saved Surf City from having to hire another person, as staff no longer have to spend 100 man-hours or so a month reading meters or fixing the system. Instead, they are performing other tasks in line with their responsibilities. Also, AMI is helping the town cope with the huge population boom in the summertime.

Customer Service. The system enables Surf City to bill customers accurately for their water use, which also helps to encourage conservation and/or rectify problems by quickly identifying anomalies in usage that are often a result of

leaks that customers may not be aware of. The town can now quickly alert its customers proactively of issues before they become larger problems.

Gone are the days of once-monthly meter readings. The new AMI system bills accurately and on time and can deal with the issues surrounding the numerous move-outs and move-ins that have made billing more complicated for owners of rental properties.

A POSITIVE IMPACT

The AMI project has saved the town time and money. Surf City can attribute \$500,000 a year of increased revenue from the system, which more than pays for the debt service and the asset management program. 