CASE STUDY

Badger® ORION®

Radio Frequency System

Badger Meter's ORION Radio Frequency System

Badger ORION Boosts Accountability, Speeds Read Time for Sea Isle City, New Jersey

By: Kevin Orfield

Printed on the water tower in Sea Isle City, New Jersey, are the words, "Smile! You're in Sea Isle City." Indeed, during the summer months you're likely to see many residents of the coastal beach town smiling. A large number of them are on vacation, as most of the housing in Sea Isle City is vacation rentals or second homes. The city is only a few streets wide by three miles long, because it's located on Ludlam Island. Everything is within walking distance of the natural beauty of the scenic beaches.

Public works employees have been smiling ever since the city decided to upgrade to a Badger Meter automatic meter reading (AMR) system. "We have an older water system and a lot of upgrades were needed, including the metering system," explains John Manganaro, Public Works Director. "It had never been upgraded to any kind of automated reading and everything was installed in meter pits."

Badger ORION reduces labor costs, unaccounted water

During the summer, Sea Isle City's annual population of 2,800 explodes to as many as 40,000, and water use increases dramatically – from 150,000 gallons per day during offseason, to an average of 3.1 million gallons on a summer day. Because of the aging metering system, much of this water was unaccounted for, non-revenue water.

"We had a mishmash of meters representing just about every manufacturer out there," says Manganaro. "Many meters had been added just to make sure every service had a meter. The amount of unaccounted for water was outrageous."

Using the old metering system, meter reading was labor intensive and inefficient. To read all 5,000 meters, two crews of two readers would go out twice a year, needing four to six weeks to read each route. The readers had to physically open each meter pit, dewater it, read the meter, then close everything back up.

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To improve meter reading efficiency and water accountability, the City decided to upgrade its water system to an AMR system. Working with a neighboring community, Sea Isle City tested and evaluated Badger Meter's system against a number of competitors.

Based on the system's performance and cost effectiveness, the City selected the Badger ORION system. "The city was used to spending $50 or less per meter," explains Manganaro. "The cost of a radio-read meter is more than double that. But the higher cost per meter is more than made up for by the recouped revenue from increased accountability and the significant savings in labor cost."

Installation began in August 2006. Initially due to the increased number of service calls during the summer, the public works department couldn't fully commit itself to the changeout and installed only a few hundred meters. After most of the summer residents had left the island, the City was able to focus on installation and by year's end all 5,000 residential meters were installed.

Using the Badger ORION AMR system, it now only takes two mornings to read the meters instead of four to six weeks. "It's going to save us thousands of dollars on meter reading," says Manganaro. "And it's going to free up resources that were used up for twelve weeks a year. The time we save can be dedicated to performing other regular water works activities, including flushing hydrants, operating valves, and regular maintenance of infrastructure, pump stations, wells, and treatment plants. That's a huge advantage."

The Badger ORION AMR system also helps Sea Isle City recover revenue by recapturing unaccounted for water. "This system is much more accurate and efficient," says Manganaro. "By knowing where our water is going, we're now able to recoup those lost revenues. That's a critical aspect of the system."

Leak detection, meter monitoring help with billing

The Badger ORION system's leak detection feature makes it easy to identify customer leaks. After a route is read, the system flags customers with potential leak problems, for example, those with meters running nonstop. The City then sends a letter to these customers so they can try to locate the leak.

"A nice thing about the feature is that now when a resident calls in complaining about a high water bill, ORION can tell us if there's a leak or high usage," says Manganaro. If the customer needs additional convincing, the City can also install an optional meter monitor temporarily in a resident's house to help them understand usage. If there is a toilet leak, for example, the monitor will indicate a continuous flow.

In the future, Badger® Reading Data Management Software will make billing more efficient by allowing the city to easily download reads directly into the billing system. "Badgers software will eventually allow us to cut out a couple of steps in the billing process and save a lot of time," he says. "I'm hoping by the next meter reading we'll be using it."

Badger Reading Data Management Software is easy to learn and use. "Our employees were not used to using computers at all, but the training went really smoothly," Manganaro explains.

To gain public support for the system, the City has been setting up demonstration models of the Badger ORION AMR system at various community events. "It's really helped alleviate any apprehension about the new system," he says. "People are really interested in and enthusiastic about it."

Would Manganaro recommend the Badger ORION system? "Absolutely. Overall, it's a cost-effective, easy-to-use system with excellent product support." ■