

CASE STUDY

ORION®

Radio Frequency System



ORION® Radio Frequency System

ORION® Pilot Leads to Full Installation

By: Ted Schaar

“Aiken always prides itself on being innovative, so when we recommended running a pilot of the ORION® system, it was something our city manager and council were willing to approve,” explained City of Aiken Director of Finance and Information Management Anita Lilly. Aiken is a South Carolina community of about 25,000, located 22 miles northeast of Augusta, Georgia. “ORION looked like an excellent system to all of us,” she continued, “but we wanted to make sure.”

Water for the community comes from Shaws Creek, Shiloh Springs, and two wells that tap into the Tuscaloosa Aquifer. Residents and businesses use about 7.8 million gallons every day.

Pilot project launched

Lilly and Assistant Finance Director Kim Abney headed up the pilot project and soon 600 of Aiken’s Badger® meters had been modified to accept the ORION Radio Frequency Transmitter. “Except for some commercial accounts, almost all of our meters are in pits located near the street so in most cases we didn’t have to make arrangements with homeowners to gain access,” Abney said.

“There were some glitches during the pilot,” Lilly recalled, “but Badger Meter always backed up the product and ironed out difficulties as they arose. For example, we had a software issue with the new system, but Badger sent specialists to troubleshoot it and they solved the problem very quickly.” Impressed by ORION’s performance, in August, 2003, a decision was made by the city council, city manager, and mayor to retrofit all 17,500 of Aiken’s meters with the new ORION transmitters.

Smooth installation

Badger Meter coordinated the installation, hiring Utility Partners of America (UPA) to do the work. “UPA did an excellent job,” said National Account Manager Dave Tuholski. “They started in October, 2003, and by the middle of April, 2004, the project was complete.”

One major installation challenge was finding meters in commercial locations, such as shopping malls. “Many of these meters were installed indoors and they were in some pretty out-of-the-way places, including above false ceilings,” Lilly recalled.

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Laptop and GPS

Reading the ORION-equipped meters is accomplished using a Panasonic Toughbook laptop. “It’s a durable and portable unit that has worked very well for us,” Abney said. Aiken also purchased the ORION Global Positioning System (GPS), and UPA collected the latitude and longitude coordinates for every meter in the city.

“GPS is a great option that will make our work easier,” Abney continued. “We aren’t reading with it yet, but even now when our technicians are using the laptop, the GPS shows a map of each area on the screen and indicates with changing colors which meters have been read. If a meter has not been read, it’s easy to spot and we can go back and find out why.”

Abney added that GPS also makes it easy to find installed meters. “Some homeowners cover the pits with landscaping, so it’s not always obvious where the meter is,” she said. “GPS allows our personnel to get within a three-foot radius of the meter and then they can find it easily using a metal detector.”

Tamper detection

Pits have to be located when ORION equipment is inadvertently damaged by lawnmowers or when homeowners tamper with the installation. “We don’t get many, but some people open their

meter boxes to see what work was done,” Lilly said. “We warn customers in our bills that ORION is capable of detecting tampering and that any evidence of it will result in a \$120 fine, but a few can’t

people now have more time to notify customers of high usage and possible leaks.”

Pleased with ORION and Badger Meter



Badger Meter’s National Account Manager, Dave Tuholski (left), and from the City of Aiken - Anita Lilly, Kim Abney, Robert Powers and Nathan Campbell.

resist. Fortunately, each time we perform a read, ORION produces a report that flags meters that have been tampered with.” Lilly said that one fine has been enough to dissuade customers from future tampering.

Fast payback predicted

City of Aiken officials believe ORION will pay for itself quickly based on improved productivity. “Using the laptop, one technician can read all 17,500 meters in less than 40 hours,” Lilly said. “Overall service and conservation have also improved because our

Both Abney and Lilly said they would recommend ORION to other utilities that are exploring installing an automated meter reading (AMR) system. “ORION is doing what we wanted and expected it to do, our meter techs are happy, and we think it’s a giant step forward,” Lilly concluded. Abney added, “And although Badger is a big company, Badger people always treat us like we’re the only customer they have, which is unusual. We’ve never worked with a more responsive supplier than Badger Meter. Some of this is certainly due to Dave Tuholski, our primary contact. He’s very knowledgeable and supportive.” ■