Dinwiddie County Water Authority

Neptune's R900® Mobile AMR Makes Up for Lost Time – and Water

METER READING AND BILLING – HARD TO RUN WHEN YOU'RE WALKING

Serving a population of nearly 7,500 just 25 miles south of the state capital of Richmond, Virginia, the Dinwiddie County Water Authority reads and bills approximately 3,200 water and wastewater connections monthly, just over 3,000 of which are residential, along with nearly 200 commercial and industrial accounts.

Until recently, Dinwiddie found its meter reading to be a labor-intensive, inefficient process that took the Authority upwards of three weeks, making billing on time each month a down-to-the-wire experience.

A full-time meter reader and a part-time meter reader were reading all accounts by flipping open meter lids, recording the information on paper meter reading sheets, and then entering the data into their existing handheld device for transfer to the billing system. The extra step was needed to reduce re-reads in the field in the event there was an issue with the handheld. In addition to the time it took to collect the meter readings, safety was an issue. "There was a lot of driving on some pretty heavily traveled roads, with one guy jumping in and out," said Authority Executive Director Robert Wilson.

The need to move to another method of reading and billing coincided with a directive from the Authority's governing board to maintain as small a staff as possible and maximize automation to keep costs down for customers. In 2010, Wilson recommended that the board replace the existing direct read meters with a mobile, radio frequency-based automatic meter reading (AMR) system.

CUSTOMER
Dinwiddie County Water Authority, Dinwiddie, Virginia

SERVICE TERRITORY
DCWA provides water and sewer services ot 3,200 connections monthly in Dinwiddie County.

SOLUTION BENEFITS
System-wide meter reading with fewer personnel in days instead of weeks

Data logging helps provide customer adjustments for water leaks

Detailed daily water consumption data aids customer service

Proof of water usage patterns, evidence of leaks reduce customer inquiries

NARROWING THE SEARCH FOR AMR TO GET MORE OPTIONS

With Wilson and Operations Manager Ben Jones each having more than 25 years in the utility industry and sharing ultimate responsibility for the system, they decided to keep the selection process in-house. Sending out a request for proposals (RFP), the Authority emphasized data logging capability and system compatibility with its existing billing system, among other criteria. Particularly important to Wilson was finding one point of contact for all support, including system hardware and software.

Through the RFP process, the field was narrowed to a short list of five metering company prospects. The Authority's interview with Neptune® distributor HD Supply not only solidified for Wilson and Jones the company's reputation for tried-and-true systems but also demonstrated that to move forward with Neptune added value. They were impressed with the E-CODER®)R900*i*™ and its 96-day-history data logging capability – as well as its through-the-lid antenna for meter pit applications.

Although the Authority only needed a mobile AMR system, the R900® System's migratability was also important, according to Wilson, who is interested in implementing advanced metering infrastructure (AMI) fixed network technology "down the road".

Wilson was led to contractor Atlantic Utility Solutions of Daleville, Virginia for the installation phase of the project. Jay Latchum is the Meter Systems Specialist for HD Supply. "That's one of the smarter things they did," laughed Wilson, "sending me a sales guy with field knowledge who could 'get his hands dirty' – that goes a long way."

INITIATING INSTALLATION OF THE R900 SYSTEM

After the interviews, the Board of Directors concurred with Wilson and Jones' recommendation and awarded the contract to Neptune, with the Authority utilizing Atlantic Utility Solutions to change out the meters in the field. "It's worked really well," Wilson said. "They were able to install between 200 and 300 meters a day."

With the project scheduled in phases over several years, the Authority concentrated on the industrial (six-inch and eight-inch meters) and residential water meters

first. Each of the first two phases involved 1,500 meters and E-CODER)R900*i* combination encoder/RF meter interface units.

To notify customers as meters were to be changed out in their area, the Authority gained permission from the Dinwiddie County division chief for fire and EMS to use the Reverse 911 system to call customers the night before and the morning of installation.

Field installation entailed changing out the meter, capturing and documenting the last reading on the direct read meter, installing antennas through the tops of the meter boxes, and completing the necessary changeout forms.

NEPTUNE GOES THE EXTRA (SEVERAL HUNDRED) MILES

Any time you embark on a complete meter system changeout project, it is inevitable that you will experience some challenges. It is therefore critical that you choose the solution provider that will partner with you to make the project a success. Although it did not disrupt the Authority's billing, during installation, it was discovered that there were issues with several meters during a billing cycle. "I have not gone through a project startup of any kind without some type of unexpected hurdle," said Wilson. "We simply estimated those meters for that billing cycle and contacted Neptune. Neptune promptly sent in a team of engineers from Alabama that identified and resolved the issue. A true indicator of a superb company is how it addresses problems and responds to them," he said. "Seeing that Neptune was truly a stakeholder and partner in this project confirmed our choice to deploy a Neptune system."

CUSTOMER SERVICE – THE USEFULNESS OF USAGE DATA

As of early 2014, there are only about 100 commercial meters remaining to be scheduled for installation. Meanwhile, the Authority is realizing the benefits of its R900 System with regard to its residential and industrial accounts.

"Our customers might be surprised to know that 99 of a hundred leaks we see are directly connected to their

toilets," Wilson said. Using N_SIGHT® host software to leverage the E-CODER)R900*i*'s data logging capability, he was able to show one customer when his toilet leak started – and the resulting leap in water consumption. "He had unknowingly used 159,000 gallons for the month. It was four gallons a minute for just two toilets. Unbelievable." Being able to break down usage data by day has also aided the Authority's customer service in another way, with data logging used as a tool to provide occasional adjustments for water leaks.

Wilson has witnessed a difference on the industrial side, too. After putting in a new meter at a large steel mill, he was able to view how a 15 percent discrepancy between the water the Authority pumped in and what it billed was now eliminated. For the same customer, he has been able to show the effect that opening a 16-inch valve to draw water has on the utility storage tank.

The Authority's R900 System has made Wilson a well-satisfied Neptune customer. "You can't put a dollar value on things like customer service, integrating meter data into the billing system, and eliminating transposition errors," he said. "But by showing customers their usage patterns or when they had a leak or when they repaired it, and reducing inquiries and problems, the system pays for itself."

MOVING AHEAD AT THE RIGHT PACE WITH NEPTUNE'S MOBILE AMR

The full-time meter reader has since retired but that position doesn't have to be filled. Since the conversion, all meter readings can be accomplished by a part-time meter reader in a day or two, at a leisurely pace, leaving plenty of time for quality assurance, quality control, and maintenance over a period of just five to seven days.

Wilson is enthusiastic about Neptune's R900 System and would "recommend it to anybody considering a radio read system. It's an efficient customer service tool that's accurate and self-supporting." He looks forward to working with Neptune in the future for enhancements and possibly a hybrid system with the installation of fixed network collectors.

The executive director is equally impressed with Neptune as a whole, having had the opportunity since project implementation to visit the Neptune headquarters and manufacturing facility in Tallassee, Alabama. "It is definitely a one-stop shop," he said. "They have their own on-site foundry as well as engineering and technical support all in one place. What impressed me most was how self-sufficient they are, with control over the product end-to-end."

He concluded, "Everything about the company validates our decision to partner with Neptune. We not only selected the right vendor, we added to our team a stakeholder and partner with the same goals and objectives for success."

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