ARB® UTILITY MANAGEMENT SYSTEMS™

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CITY OF PALATKA
CLIENT

FLORIDA
LOCATION

Getting a Better Read on the Future through AMI

New Utility Systems for a New Century

Surrounded by live oaks, tall pines, and its famous azaleas, the City of Palatka is the seat of Putnam County in northeast Florida. Encompassing nearly 7.5 square miles along the St. Johns River, about a half-hour from the beaches on the state's east coast, the city supports a population of 11,000.

The City of Palatka Utility Department has provided for the needs of the community for more than 100 years and continues to do so under the direction of City Manager Woody Boynton. He and his staff of 15 now service nearly 100 miles of water main and 75 miles of sewer lines for 5,400 customers. The utility has also implemented significant recent capital improvements, including a six-million-gallon-per-day water treatment plant and a 3.5 million-gallon-per-day wastewater treatment facility.

Another key area for improvement has been the utility's meter reading and billing system. For years, the city sent out two meter readers every day of every week to manually read one of four "quadrants." Within each quadrant was any number of meter brands. Beginning in 1998, Palatka began a systematic transition strictly to Neptune meters; but nearly 12 years later, there were still between 10 and 15 percent of the various other brands in place. After taking inventory of its assets in the field, the team determined what was working – Neptune's products. This was especially the case with the meters themselves. "All we had to do was put a new [E-Coder®] encoder on the existing meters," Boynton said.

The Need to Read for Revenue and Efficiency

According to Boynton, his main problem was that nearly that same percentage of meters "weren't reading at all," and were jammed. Making matters worse was the unreliability of the readings the readers did bring in. And then there was the inability of the larger meters at several major area institutions to register low flows – resulting in potentially massive amounts of lost revenue. In 2007, Jay Meyers, Sales Representative for Sunstate Meter and Supply, met with the city to outline a plan for a new meter reading system. Seeing that the problem with the large meters was what most affected the bottom line, the City of Palatka tackled it first, changing out only those meters.

Because a sizeable portion of the residential reads were also unreliable, Boynton had to send certain households a "minimum bill" for 4,000 gallons per month. And because there was no way to check the current month's usage against the prior month's, any leaks that might have occurred would remain unaccounted-for and be written off. "The biggest headache I had was customer service," said Boynton. "[The utility] couldn't support what the meter readers saw. I was getting half a dozen to a dozen calls myself each month from customers complaining about late reads and what they felt were high-water bills."

Between the continual, incremental replacement of aging meters and the resources involved in sending manual readers out into the field, Boynton and Meyers found it would be more cost-effective to fully implement an automatic system than to "keep doing it the old way." Boynton added that the decision to stay with Neptune was easy, as the utility was "very comfortable with the service and the huge cost savings" Neptune offered by building onto existing infrastructure.

A Vision to Help Customers
See – and Conserve

At this point, the team brought in Neptune Senior Territory Manager Terry Gullett to help determine which system would best suit the city's needs. Because the large meter changeout had already helped recover revenue, "we were more focused on improving customer service and efficiency," said Boynton. "Our vision was to provide customers with a kind of 'early warning' for leak detection and to help them see their usage trends… show them what a little drip or leaking commode or watering the lawn can mean [to their bill and to water conservation]."

The City of Palatka was looking for a system that could not only show customers data on their water usage over time but also allow for more proactive management – both on the part of the utility's reading and billing efforts as well as with the customers' management of their own water consumption. It became clear to Gullett that

The first time the utility read its meters with ARB FixedBase AMI, it achieved a success rate of 99.3 percent.

Palatka needed Neptune's ARB® FixedBase™ AMI System. Based on R450™ radio frequency (RF) technology, this fixed network system allows for time-synchronized, two-way communication from the endpoint to the data collector to the host software, all the way back to the endpoint. That means much more advanced data is sent and received much faster.

Using ARB FixedBase AMI, Boynton's staff would be able to read meters much more frequently — without ever having to leave the office. No more potential safety issues involved in sending meter readers into high-traffic areas. And while those former meter readers were reallocated to more productive tasks, the utility superintendent could monitor detailed daily usage reports for any customer's account while keeping a watch for immediate priority alarms for leak, tamper, or reverse flow.

The Leap to AMI in One Easy Step
Boynton, Gullett, and Meyers reviewed cost projections for the proposed advanced metering infrastructure (AMI) system and found that it represented a minimal increase (7 to 8 percent) in investment when compared to installing an automatic meter reading (AMR) system. Also adding to the cost effectiveness of the AMI solution were the easily accessible water towers which would serve as the locations for the R450 collectors.

Contractor Triton Water Technologies began installation of the remaining meters, E-Coder smart encoders, and R450 meter interface units (MIUs) in November 2009. After a propagation study to pinpoint the most effective locations, two R450 data collectors were installed on the utility's water towers with an additional two collectors to be installed on other towers later strictly for optimizing performance. The system installation was finished by February with the small exception of 50 meters left to change out.

"Contractually, the changeout has gone seamlessly. The professionalism displayed by both Neptune and Triton during that entire process was all that I could've asked for," said Boynton. Just as important, "There were no complaints or issues from our customer base."

A Prime Vantage Point on the Future
As of mid-April 2010, the city has only one major hurdle to overcome — its 30-year-old billing system must be updated and integrated with Palatka's new AMI capabilities. Boynton is looking forward to the day when this upgrade takes place as the utility expects to be able to bill all of its accounts once a month and save between 40 and 80 man-hours each billing period. "Customers won't be on different billing schedules any more, and everything will be much more consistent," he said.

Inspecting installation of 10" HP PROTECTUS III (L-R): Rhett McCamey (Superintendent), Brandon Richardson (Foreman), Shawn Ladd (Supervisor).

The city manager also eagerly anticipates the benefits of a fully two-way fixed network AMI system. "I'll breathe a sigh of relief when I can tell the two [meter] readers they won't have to go out and read any more; when customers complain and we have the information to back up our reads; when we can look at daily reports and understand exactly what's going on in the system; and when we can track excessive leaks and even compare the water that's pumped versus what's being read."

In the meantime, he is excited by the results he's seen from the short time Palatka's Neptune System has been up and running. Using just two of the data collectors, the first time the utility read its meters with ARB FixedBase AMI, it achieved a success rate of 99.3 percent. And when Meyers performed a spot check on the meter at the home of the public works superintendent, he immediately saw the flag on the E-Coder display indicating a leak. Said Boynton, "That told us right then and there that [the implementation of the new system] was what we wanted to do."

By putting a new Neptune AMI system in place, Boynton says it has put the utility in a good place for the future. "As our city expands, we have what we need going forward, with the redundancy to cover it all. Our potential growth should be seamless."

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