

ARB® UTILITY MANAGEMENT SYSTEMS™



EAST ORANGE WATER COMMISSION

CLIENT

EAST ORANGE, NEW JERSEY
LOCATION

On the Air and On Target with Neptune ARB® Mobile™

On July 1, 2009, the East Orange Water Commission celebrated its 100th anniversary. Over the course of the last century, this quasi-independent utility has used a gravity-fed system to deliver water over two mountains from a system of artesian wells along the Passaic Aquifer. The Commission generates its own revenue and serves the 75,000 residents and 10,600 accounts of the City of East Orange, New Jersey – an area of four square miles – along with the 17,000 residents and 5,000 accounts in the Township of South Orange Village. According to Executive Director Harry Mansmann of the Commission, 600 commercial and high-rise apartment accounts make up 60 percent of the city's water consumption: "East Orange is an apartment town."

When Mansmann joined the Commission in 2003, he faced a mounting crisis in its meter reading and billing. Nearly 50 percent of monthly bills were estimated under the system he inherited. Collections hovered near 70 percent. "It was a dire situation," he said. "With a \$22 million budget, we believed we were leaving up to \$8 million 'on the street.'" His crew fielded between 200 and 300 calls a day from customers regarding faulty and missed reads, thus adding to the dilemma.

With six to seven staff members utilizing 12-15 working days each month to collect manual reads using handheld devices, it was obvious to Mansmann that a major overhaul was needed to reduce overhead and boost efficiency.

The Transition to Transmission: Implementing an R900® System

In early 2004, the Commission voted to make the switch to radio frequency (RF) technology. The Commission considered the possibility of having a contractor install the system but decided to implement the new system itself with Neptune's help.

Mansmann worked closely with Neptune Territory Manager Jim Haney and Wally Burdalski of Rio Supply to determine the best options going forward. "Jim has been instrumental in everything we've done," Mansmann said, "while Wally and his team at Rio Supply have been invaluable, assisting us every step of the way." After viewing samples, the Commission decided on a combination of Neptune ProRead™ absolute encoders and R900 RF MIUs. Wally provided all the training needed for Mansmann and his staff to install the R900s and implement their own ARB® Mobile™ System.

Within eighteen months, the Commission had completed installation of the new meters and R900s in the East Orange and South Orange service areas.

In addition, Mansmann's team implemented Neptune's FloSearch® II System – comprised of recorders, transmitters, and PC software – to provide consumption profiles for specified time periods. The FloSearch II, which can detect incorrect meter sizing, leaks, and/or abnormal



usage, "has been a remarkable tool," said Mansmann. "We can mount it on a meter to get a reading overnight," data now used to resolve customer questions about volume and time of water flow.

A More Productive Commission, More Proactive Customer Service

Using the new ARB Mobile System, the East Orange Water Commission has experienced several notable changes. First, all the reads are captured by a single reader in less than 12 hours, with ample time to gather rare re-reads. The Commission now routinely realizes a reading success rate above 99 percent, instead of estimating half its reads.

At the same time, personnel safety has improved. Previously, meter readers were subject to attack by dogs and even irate residents.

While the lone remaining meter reader can perform his duties without leaving the safety and comfort of his vehicle, the rest of the former readers have been reassigned to other tasks, with no layoffs. "We're much more productive now," said Mansmann, "and the new Neptune System has been extremely cost effective."

Customers have noticed a difference. Now there are fewer than ten meter-related calls a day on average – down from almost 300 before the system was installed. When the new R900 MIUs were installed, some residents were concerned about the AMR system tapping into their power lines or ruining their computers. Of course, these concerns were unwarranted.

The Fast Track to True Reads, True Efficiency

It's all a part of the Commission's efforts to streamline the flow of its reading and billing data. A much more efficient meter reading system naturally leads to a much more efficient billing system. With Neptune's ARB Mobile System, Mansmann and his staff can capture meter readings, download them to ARB® N_SIGHT™ Mobile host software, and upload the information to their own UBS billing software in a single day. The entire process takes 36 hours – from the initial read to mailing the bill. Even



more effective is the ability of the Commission's customers to visit the utility's website, not only to view their consumption and billing data within 24 hours of capturing the readings, but also to pay their bills online as well – a service begun in November 2008. Customers' use of the website has doubled each month thereafter.



The race to "get information ahead of time" has largely been won, according to Mansmann, thanks to "new devices that grab additional information we didn't have before." One device is the Neptune E-Coder)R900/™, which integrates the RF transmitter and encoder into a completely sealed housing that's also easy to install. Since placing E-Coder)R900/ units into meter pits six months ago, the Commission has enjoyed added-value features such as leak, tamper, and reverse flow detection as well as data logging capability.

In July 2009, the Commission signed an agreement with the City of East Newark, New Jersey to install Neptune's ARB® Utility Management Systems™ there. In addition to collecting meter readings and administering the billing for the City of East Newark, East Orange is negotiating with other local entities which to date have billed their sanitary system separately from their water system. Mansmann's team is attempting to help struggling utilities upgrade their outdated flat-fee system to one that helps capture Water and Non-Revenue Water into one reading and billing system.

Mansmann is enthusiastic about continuing to reap the benefits of East Orange's ARB Utility Management System – so much so that he anticipates touring Neptune's Tallassee, Alabama plant with his staff in the near future. In the meantime, the Commission's current water account receivables have increased from about 70 percent before the system was installed to a rate of 95-96 percent, yielding "true efficiency" for its operations. According to Mansmann, "It all started with the meters. And now we can provide true information, true reads, and historical data to our customers."

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