

OGDEN CITY PUBLIC UTILITIES

OGDEN, UTAH



“AFTER OUR FIRST MONTH’S INTERNAL AUDIT, WE SAW THAT WE WERE ALREADY INCREASING REVENUES SIGNIFICANTLY, AS WELL AS EFFICIENCIES.”

CRAIG FRISBEE, MANAGER OF OGDEN CITY PUBLIC UTILITIES

A Golden Spike in Revenue, Efficiency, and Customer Service with the R900® System

Broken Mains and Old, Cold Infrastructure

Situated in Utah’s high desert at the base of the Wasatch Mountains, Ogden City lies approximately 40 miles north of Salt Lake City and 10 miles east of the Great Salt Lake. The county seat of Weber County, Ogden is home to a population of nearly 83,000. Also known as Junction City, it saw the historic joining of the First Transcontinental Railroad with the driving of the Golden Spike at Promontory Summit in 1869. In 2002, it hosted athletic events for the 2002 Winter Olympics. Since its beginnings as a pioneer town, the City has grown from its role as a major railway hub to become a center of industry and commerce.

Ogden currently serves approximately 36,000 water connections, including 26,000 residential, 9,000 commercial and industrial, and 1,000 other. When Manager of Ogden City Public Utilities Craig Frisbee first joined the department in 2006, he saw aging, inadequate infrastructure firsthand. “Right after I got here, there was a major break on the distribution mains,” he said. “People were out of service for three days.” Upon inspecting the City’s meters, he found some that were between 30 and 40 years old, many stuck or inaccurate. “Some of our infrastructure was original from more than 100 years ago, especially in the downtown area.”

Winters made a bad situation worse. Freezing temperatures not only caused further cracks and wear on distribution lines, but the extreme cold and snow cover also made meter reading a challenge. Vincent Ramos, Maintenance Crew Supervisor – Meter Division, said that he and his team of five meter readers had to estimate a large percentage of manual meter readings as part of the monthly billing.

Ramos said, “Back in 2001, the City had put in place some radio read meters from a Neptune competitor, but there was a problem with the product.” In 2007 Ogden was able to secure a \$50 million bond to apply to its aging water and sewer infrastructure and decided to revisit an automatic meter reading (AMR) solution as part of the overall project.

Readying for Radio Reads with Neptune

In 2008, the City sent out a request for proposal on a system-wide changeout of its meters, absolute encoders, and radio frequency meter interface units (RF MIUs). “Our goal was to eliminate estimating and replace all our meters with AMR technology to read year-round,” said Frisbee.

Ramos accompanied meter reading teams in other cities to research the pros and cons of different AMR systems. He came back impressed

with Neptune Technology Group's R900® System. "Neptune's mobile unit was the fastest," he said. He was likewise interested in the system's data logging capability.

Frisbee was also pleased with Neptune – in particular, with how the company "answered all our concerns, and even provided a software program for us to provide a financial analysis of the savings we could expect." Neptune's Systems Advisor™ tool for AMR showed Ogden how long it would take for the R900 System to recoup its own costs after the changeout. "We presented [the findings] to the mayor and the city council, which really helped to sell them on the advantages of the system," added Frisbee.

Working with Neptune Distributor Ken Sheffield and his installation team at Meter Works, Ogden City began implementation of the R900 System in 2009. Meter Works hired the City's meter readers to assist with the installations in their off time, which has allowed them to see "the other side of the process and to get good cross-training," according to Frisbee. Sheffield's team has been a close collaborator and has "been ready, willing, and able to answer my questions," he added, saying, "They even came up with good questions of their own." For one example, even before Ogden had chosen Neptune, Sheffield researched the City's engineering standards for meters and found a requirement stipulating that the meter bodies could not contain lead. As Neptune's lead free bronze-body meters met even upcoming lead requirements years ago, that was another point in Neptune's favor.



R900 AMR Conserves Water, Labor, and Money

The City has switched routes to AMR technology as funding has allowed, an ongoing effort expected to be completed in the next two to three years. "We are first attacking those routes that are toughest, most dangerous, or hard to read," Ramos said. In the meantime, the City is already noting the difference its R900 System provides. As of mid-February 2012, Ramos and his team were reading about 12,000 of the City's accounts through mobile data collection. "Now we can just drive by to pick up the reads. I love to tell them stories about how easy they've got it, compared to when I first started," he said. The new reading efficiencies have freed up the crew for tasks beyond meter reading, including working on sizing and stuck meters.

While Ogden City was starting the AMR installation, it was also upgrading its billing system. "After our first month's internal audit, we saw that we were already increasing revenues significantly, as well as efficiencies," Frisbee said. "Those efficiencies will help us not to raise rates as much... so we can do more with that dollar."

Ramos has also seen the difference at the meter. "Our older meters have registered between 90 and 94 percent accuracy, with a few as low as 70 or even 60 percent. However, our new meters are proving 100 percent accurate, so we're getting our full revenue out of them. We noticed a jump in revenue right away." Customers noticed their bills were suddenly higher, too, and called the City to question them. Ramos was ready, "Using the E-Coder®)R900i™ [combination absolute encoder/RF MIU], we can show them data logging charts that make sense of their bills."

Frisbee added, "Education is key to conservation. We can show customers with graphs their water usage on an hourly basis, so they can then use that information to conserve water and even address sources of leaks, such as a toilet or sprinkler. Many of them wind up saying, 'Wow. I'm using more than I think I should.' Most customers have been proactive about using less water and saving on their water bills. Vince can even talk to customers about ways to save money specific to their account – based on times and amounts of water used – regardless of what their bills are today."

Left: Todd Sheffield (Operation Manager for MeterWorks Services) installs a Neptune T-10™ meter with an E-Coder®)R900i™ in the field. Below: Neptune E-Coder)R900i in the field in Ogden City, UT.



The Proof Behind Field-Proven Customer Service

Addressing customer concerns over higher bills, however, has been the ultimate test of the R900 System's efficiency and reliability. Frisbee said, "As we've shown them their usage, many customers have acknowledged the problem and most have been grateful for the lesson on their specific water usage. Some have even taken additional steps to use the information to build their own water conservation program."

He continued, "Before the conversion, a small number of customers would call after seeing their bill and complain that they were being charged for a supposedly non-existent leak. Now, with the AMR system in place, we take the opportunity to educate them on how we can review their water usage together minute by minute before and after the leak. We also show them exactly how much water they were using and when. We even show them when they made the repair, even if that repair was made before they logged the complaint."

"Before, with high-bill checks of manual meters, they wouldn't tell us, so we'd have to be investigators," said Ramos. Now the new meter information can tell the entire story even if the customer is reluctant to do so.

The R900 System also brought closure to another awkward inquiry. "We had a customer who owned a laundry and used a lot of water," Ramos said. "He would call to complain about his bill, which was averaging between \$900 and \$1,000 per month. Then he insisted that we install a new meter, and even bought and installed his own three-inch meter to compare our figures against his. When we put in the new Neptune register with data logging, we were able to provide him with a much more accurate history of water usage. Now even though his bills are between \$4,000 and \$5,000 a month, he understands we are capturing the water that had been lost before with the old meters. He hasn't called since."

As the conversion continues, Ogden appreciates the service it has received from Neptune. "They're really proactive in helping us out," said Ramos. "Neptune is the best out there and I love the customer service."

And speaking on what the R900 System has accomplished for the City, Frisbee said, "When I realized the efficiency, I wish I would've done it a long time ago. That efficiency means good customer service as well as good water management."

HIGHLIGHTS

NUMBER OF SERVICES: 36,000
26,000 RESIDENTIAL
9,000 C&I
1,000 OTHER

IMPROVED METER ACCURACY FROM AN AVERAGE OF 90-94% TO ACHIEVE 100% ACCURACY, REDUCING NON-REVENUE WATER

ADDRESSED HIGH WATER BILL COMPLAINTS USING E-CODER®)R900;™ DATA LOGGING GRAPHS AND INCREASED CUSTOMER AWARENESS OF WATER USAGE

REALIZED GOALS OF ELIMINATING ESTIMATES AND READING ALL METERS YEAR-ROUND

NEPTUNE'S SYSTEMS ADVISOR™ SOFTWARE ACCURATELY PREDICTED LIFE CYCLE COSTS AND SAVINGS RECOUPED BY THE R900® SYSTEM

NEPTUNE'S LEAD FREE BRONZE-ALLOY METERS MET UNIQUE ENGINEERING REQUIREMENTS OF THE CITY

AFTER THE CHANGEOUT, THE FIRST MONTH'S INTERNAL AUDIT SHOWED SIGNIFICANT INCREASES IN REVENUES AS WELL AS EFFICIENCIES, HELPING KEEP RATES STEADY

Neptune Technology Group Inc.
1600 Alabama Highway 229
Tallahassee, AL 36078
USA
Tel: (800) 633-8754
Fax: (334) 283-7293

Neptune Technology Group (Canada) Ltd.
7275 West Credit Avenue
Mississauga, Ontario
L5N 5M9
Canada
Tel: (905) 858-4211
Fax: (905) 858-0428

Neptune Technology Group Inc.
Avenida Ejercito Nacional No 418
Piso 12, Despacho 1203
Colonia Polanco V Sección
C.P. 11560
Delegación, Miguel Hidalgo
Mexico D.F.
Tel: (525) 5203-4032 / (525) 5203-6204
(525) 5203-5294
Fax: (525) 5203-6503

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TECHNOLOGY GROUP
neptunetg.com