



Missoula Water System

MISSOULA WATER EMBARKS ON A NEW JOURNEY WITH THE NEPTUNE® R900® SOLUTION

The home of the indigenous Salish peoples as well as a mecca for education and the arts, Missoula, Montana is experiencing unprecedented growth and development. Missoula, which currently has a population of 80,000, increasingly attracts residents and visitors to the historic Lewis and Clark expedition trail and state parks that offer year-round outdoor activities.

MISSOULA'S METER READING CHALLENGES

The legacy Missoula Water system had meters, registers, and radios that had not been purchased from Neptune® to serve their 22,000 metered accounts with over 27,000 connections. Unsatisfied with the quality and performance of their existing meter reading system, they were looking for system-wide solutions that would deliver greater accuracy and efficiency. “We had anywhere from 3 to 3,000 meters that were not picking up readings on a normal monthly basis that required estimated reads, which was a huge problem for us,” stated Jerry Ellis, Operations Superintendent with Missoula Water.

They were also burdened with the task of replacing 5,600 radios, a component of the original aging infrastructure, that had a manufacturing defect causing many of them to die soon after installation. Replacing defective radios proved even more difficult during the COVID-19 pandemic due to limited availability of customer appointments to access the meters inside the home. The variety of deployed radio types and replacement burden necessitated having more than one AMR reader in the truck, which reduced their meter reading efficiency and incurred additional cost.

SEEKING A COMPREHENSIVE AMI SOLUTION

Missoula sought to solve its challenges and transition from its aging AMR system to AMI to help better serve customers. It conducted a selection process and received proposals from several AMI solution providers. Using a tailored solutions approach, Neptune proposed an AMI system that would address Missoula's existing issues and provide an infrastructure that would grow with its changing needs. Neptune's propagations team worked closely with Missoula to gather information about Missoula's meter locations, radio



CUSTOMER

Missoula Water System

SERVICE TERRITORY

The Missoula Water system manages approximately 27,000 connections for 80,000 residential and commercial customers

SOLUTION BENEFITS

Eliminate thousands of estimated reads

Make large meter installation safer and easier with lightweight C&I MACH 10®

Save time and hassle by changing out UME on large meters without removing meter from pipe

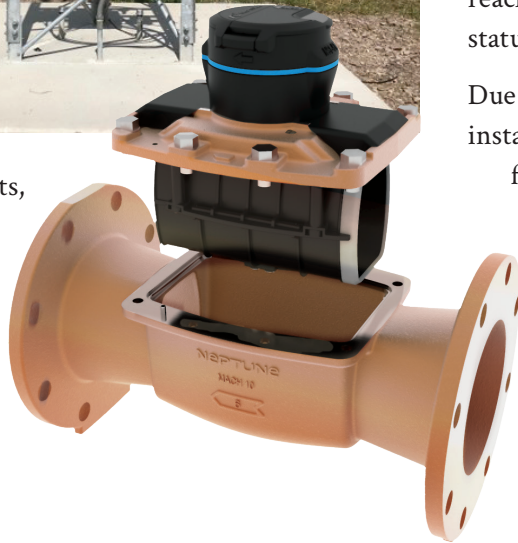
Simultaneously collect reads via walk-by and drive-by during AMI deployment

Reduce high bill complaints without costly additional truck rolls



deployment constraints, available locations for gateway placement. This information was then passed through sophisticated propagation modelling software to determine the optimal AMI network design. The network design process was iterative, allowing Missoula to provide critical feedback to ensure the proposed solution would solve its unique challenges and meet its AMI goals.

In addition to conducting a proposal selection process, Missoula also sought input from surrounding utilities. “Our neighboring towns have been using Neptune for 20 years and attested to their ability to reliably deliver improved meter reading efficiency and enhanced customer service capabilities,” Ellis shared. The Missoula City Council approved the Neptune project which would replace every meter in the system and build an AMI infrastructure.



EASING THE BURDEN OF AMI DEPLOYMENT

Replacing the failing meters and radios was the first step in the process of implementing the Neptune R900® System. Neptune continued to work closely with Missoula during deployment to ensure successful execution of the AMI project amidst challenges caused by the COVID-19 pandemic. “Neptune’s availability to assist with our deployment was rock solid and they did a good job in reaching out to us and keeping us apprised of the project status,” said Ellis.

Due to the timing of COVID-19, which prevented installers from accessing residences for most of 2020, the focus was shifted to installing approximately 5,000 residential meters in pits and large-sized meters.

The lightweight C&I MACH 10® ultrasonic water meter made large meter installation safer and easier, and its brass construction was well-suited to withstand higher pressure service locations. The C&I MACH 10’s replaceable UME, which allows the utility to change out the meter’s measuring element while it remains in service, was another feature that attracted Missoula. “Some of our big meters were just a big pain to change out – and the ability to change out the UME was another big plus. Any time we can avoid removing the meter from the pipe lay it saves us a ton of time and hassle,” remarked Ellis.

The R900 System’s simultaneous AMR/AMI capability enabled Missoula to immediately collect reads using walk-by and drive-by data collectors during the AMI system deployment. Crucial up-to-date meter data was delivered without the interruption that usually occurs when deploying a new meter reading system. “Neptune partnered with us to make the gateway installation very efficient, from the easy-to-use design to the suggested antenna locations to good communication and support throughout the entire process,” Ellis stated.



SOFTWARE THAT KEEPS DATA ON TRACK

A lack of readily available consumption data had created a challenge for Missoula in troubleshooting problems during a service call and over the phone with customer service. “For the boots on the ground, it’s really a frustrating thing to show up at a customer’s house or even call a customer when you don’t have any information at all to give them,” noted Ellis.

The addition of Neptune® 360™, a cloud-based data management software platform, affords Missoula the ability to retrieve 96 days of hourly consumption and read interval data in the office and in the field with mobile reading capability via belt clip readers and mobile devices. Neptune 360 stores this data, which provides Missoula’s staff with on-demand access to the information needed to better service customers.

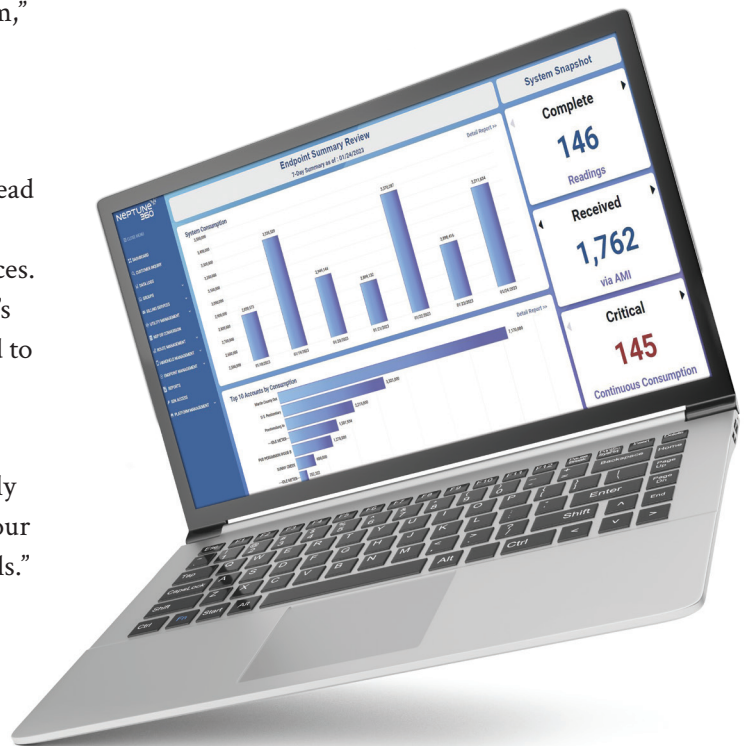
According to Ellis, “Neptune 360 works consistently, is easy to use, and delivers granular meter data that greatly helps us address and reduce high bill complaints from our customers amicably without costly additional truck rolls.”

IMPROVING EFFICIENCY WITH PERFORMANCE AND RELIABILITY

Missoula’s AMI system is exceeding expectations.

“Neptune delivered on their promise to provide a system that improves accuracy and efficiency. The propagation study and the locations that Neptune suggested we put our gateways and antennas are working well for us. We don’t have to drive down every road to pick up the meter readings like we used to, and we have the data we need to increase customer satisfaction and optimize operations,” said Ellis.

The Neptune R900 System provided Missoula Water with a comprehensive, scalable solution to address specific needs within its timeframe and budget. The interoperability of Neptune products allows Missoula to easily collect and use critical metering data to optimize system management by increasing efficiency and improving customer support.



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