



The City of Battle Creek

Time-Stamped Consumption Activity Resolves Customers' High Bill Complaints

BYPASSING INACCURATE READS WITH AN ALTERNATE ROUTE TO FIXED NETWORK

At the City of Battle Creek, Michigan Utilities System, Utility Administrator Perry Hart and his team had been using the mobile metering system of a Neptune® competitor for several years. Unfortunately for the City, that system was severely underperforming, providing inconsistent reading information along with a continuing failure of its radio frequency (RF) products in the field. “It was affecting our customer service,” Hart said. After evaluating the options, and based on the size of its service area as well as its geography, Battle Creek was led to the implementation of a fixed network AMI system for metering data collection.

Because Hart had worked with Neptune in other communities, he “had a strong confidence in their products.” In January 2014, he identified several other Michigan municipalities that were using Neptune advanced metering infrastructure (AMI) fixed network systems and spoke with their different department personnel, including billing clerks. “We wanted to find a common manufacturer for all our meters and reading,” Hart said. “After defining the cost-per-billing-read over time, Neptune had the best value ... [plus] we didn’t have to hire out a contractor to replace everything at once before we could read.”

After witnessing one utility’s ability to read both mobile and fixed network reading methods with the same existing assets in the field, Battle Creek chose the Neptune R900® System. Citing its easy migratability from AMR to AMI as well as its long-range capability, Hart was enthusiastic that the system allowed the City to read even in the midst of installation, which began in January 2015. And unlike the previous reading system, R900 technology did not require programming in the field, eliminating some of the types of errors that had occurred before. In fact, the R900 System has identified thousands of dollars in Non-Revenue Water that had been lost because of prior transposition errors. It



CUSTOMER

The City of Battle Creek, Michigan Utilities System

SERVICE TERRITORY

Battle Creek is a city in Calhoun County, Michigan, with a population of 52,347.

SOLUTION BENEFITS

No programming necessary

Activity history of consumption to resolve high bills

Eliminated estimated meter readings

Migrating to fixed network AMI while reading same endpoints via mobile AMR

Meters read multiple times per day via fixed network AMI

has also helped that the Neptune system has been versatile enough to collect accurate, monthly reads from the previous vendor's hardware.

FROM MOBILE TO FIXED WITH PARALLEL READS

As Battle Creek deployed R900 RF meter interface units (MIUs), it also began installing R900 Gateway fixed network data collectors. During this process, the City could use both mobile and fixed network technology for the same endpoints without stranded assets. By November 2015, the City had implemented 6,500 of 8,000 E-CODER® solid state absolute encoders and R900 MIUs, reading its commercial and industrial (C&I) route in two days or less instead of a week – and the rest of its routes in a single day. By January 2016, Battle Creek had all of its R900 Gateway fixed network data collectors in place and operating, gathering metering data and reporting it to Neptune cloud-based analytics. As the City imports files from its system, it is testing them and looking into the various system health options, according to Hart. Now that the City no longer has to capture readings by driving but collects them in seconds using fixed network, the meter reader has been reallocated to other tasks.

Estimated reads have been reduced and issues with failing old meters can be addressed faster, according to Hart. He added that the combination of the E-CODER register and R900 MIU has not only led to more accurate billing but that the system's consumption activity history capability has helped customer service resolve complaints over high bills using time-stamped meter readings.

BETTER DATA, DECISIONS, AND SERVICES

Hart is excited about how the City will leverage its AMI data in the future, anticipating the incorporation of hydraulic modeling, pressure zone monitoring, and the ability for consumers to see and manage their own usage through a consumer portal. Because Battle Creek

is the home of several major cereal as well as other food/beverage companies, Hart is especially keen on providing these large corporate customers with the daily-and-hourly data they need to maximize water efficiency and minimize costs. Not only will a consumer portal allow self-monitoring of their usage but state-of-the-art Neptune AMI technology will also enable food/beverage customers to benefit from “deduct metering”. As an example, Hart said that a maker of food or beverage products using the water supply in their product is sending “a lot of the water they've paid for out on a truck” without that water eventually returning to the sewer system. As the City bills for both the water and sewer through its meter readings, deduct metering can be used to create a credit for water used in products or processes that does not contribute to the waste stream.

Throughout Battle Creek's transition to fixed network AMI, “Neptune has been incredibly responsive and attentive,” Hart said. “They're innovative, and have allowed us to move forward with their enhanced R900 System. They keep it simple and don't make it more complex than it needs to be – yet they can take it to the next level of technology when you're ready to do so.”

When asked the biggest benefit the City has realized with its new system, Hart said, “We're now billing down to the single cubic foot. We have seen tremendous product performance with better billing and reading accuracy.” He summed it up saying, “Better data means better decisions, which means better services.”

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- Perry Hart, Utility Administrator, City of Battle Creek

