



# Oakland County Water Resources Commission

## Moving Multiple Utilities Forward with the Neptune® Migratable R900® System

### WALK-BY READING – COVERING MILES OF METERS WITH FEET

Just 45 minutes northwest of Detroit, Michigan, the Oakland County Water Resources Commission had a lot of ground to cover, mostly on foot. Representing several different utilities throughout the county, the Commission was sending out 10-12 personnel – nearly a third of its staff – every day to get manual meter readings from a portion of the total 45,000 accounts. Between the manual reads and the problem of aging meters throughout the system, accuracy and ultimately revenue suffered, and estimates were common for quarterly billing.

Obviously, a more efficient, more accurate solution was needed. However, Oakland County's various utilities, with their different budgets and even different meters and infrastructure, did not have the time or resources to stop everything and implement a complete, system-wide changeout.

“We were really behind in meter reading and all sorts of system maintenance,” said Water Maintenance Supervisor Tim Artes. According to Artes, the Commission decided to move forward with automatic meter reading (AMR), but the first project (deployed with a competitive system) was unsuccessful. After that, the decision was made to go with Neptune Technology Group instead, with implementation of the R900® System for mobile AMR – including Neptune® E-CODER® solid state absolute encoders, R900® radio frequency meter interface units (RF MIUs), and the MRX920™ mobile data collector – in 2008.

### ROLLING OUT MOBILE AMR – WITH AN EYE TOWARD FIXED AMI

Jody Caldwell, Chief Engineer for the Commission, said, “At first, the decision to look towards mobile was difficult because we didn't want to limit ourselves. But Neptune provided the ultimate solution. We chose Neptune mobile R900 AMR technology knowing we could extend to a fixed network system in the future. That was absolutely necessary to us.”



#### CUSTOMER

Oakland County Water  
Resources Commission,  
Oakland County, Michigan

#### SERVICE TERRITORY

The Oakland County Water  
Resources Commission serves  
approximately 45,000 accounts.

#### SOLUTION BENEFITS

Migratability to mobile AMR,  
fixed AMI

Can capture meter readings  
from trucks

Automatic reads – 99% accuracy,  
99% read success

Eliminated walking routes,  
using half of former readers

Staff/resources freed for  
maintenance, capital improvement

Inhouse testing of large  
meters saves money

The R900 System offered the additional advantage of compatibility with existing technology. Neptune Territory Manager Sam Mitchell said, “We showed them how they could use R900 MIUs on their existing meters – and still be able to read through walk-by, mobile, or fixed network.”

Neptune also helped the Commission to develop an Esri® ArcPad application to use GIS system data to facilitate installation. “It gave our people in the field doing the changeout the information they needed at their fingertips – efficiently, effectively, and accurately,” said Caldwell.

The inherent flexibility of the R900 System means that Oakland County can keep installing components as it needs. “The Neptune R900 System enables all of Oakland County’s different utilities to move forward, using handheld, mobile, or fixed network meter reading,” said Mitchell. “They can read part of their routes using a mobile collector or even a handheld while installing R900® Gateway fixed network collectors later at their own pace, without having to do it all at once.”

### ACHIEVING 99 PERCENT SUCCESS RATES, ELIMINATING 10-BELOW WALK-BYS

Given Michigan’s brutal winters, meter reading efficiency is a critical factor. Artes said, “With so many accounts, and us walking routes in three feet of snow at ten below – it wouldn’t have happened before. Now with Neptune’s mobile AMR, we can do it.”

As of fall 2014, the Commission had achieved a 99 percent read success rate and cut its meter reading staff by half. Personnel who’d spent every day reading are now freed to perform other tasks. “The Neptune R900 System has helped us reallocate resources from walk-up reads to maintenance and capital improvement,” Caldwell said.

Artes added, “Neptune has helped us cut meter reading costs. Now we use just four percent of our 2008 meter reading budget to read meters. Neptune’s also helped us eliminate walking routes, while offering products with very good compatibility.”

The benefits the Commission has realized have gone beyond basic meter reading and billing.

After previously contracting for large meter testing, Oakland County worked with Neptune, who assisted in developing standard operating procedures for an inhouse program. “Now we can test large meters on a more frequent basis,” said Caldwell. “They trained our staff for a program that’s still in use today and saving us money.”

### MANAGING DATA WHILE MIGRATING FORWARD WITH THE R900 SYSTEM

Another area where Neptune has made a difference is in data management. Caldwell said, “We continuously get information from the GIS side of things and from the interaction with our billing software. Neptune’s N\_SIGHT® host software module gives us the ability to look at that data. The utility foreman can view it before it’s even sent to our billing system, to see when crews have to go [address issues] or where there are leaks or tamper or those types of things.”

“We run reports using N\_SIGHT for unbillable reads and zero consumption regularly,” said Artes. “Neptune has helped our customer service quite a bit – reducing estimates by several percent and allowing us to bill customers more accurately, more frequently.”

The Commission is also pleased with the customer service it experiences from Neptune. “They’re continuously listening, and their products are continuously evolving. If we’ve had questions, they’ve always been there to make our lives easier,” said Caldwell.

Neptune’s migratable AMR/AMI technology is proving flexible enough to meet the needs of each of Oakland County’s utilities and move them forward. Caldwell summed it up, saying, “The Neptune team environment has made it successful. The R900 System was the way to go for us to move into the future.”

