

“Solid-State Meters Increase Efficiency, Save Money for Niagara Mohawk”

1.5 Million CENTRON® Meters and Counting

efficiency

Looking for the Most Cost Effective Path

In 2002, Niagara Mohawk, an energy distribution subsidiary of National Grid USA, wanted to increase efficiency by using a mobile automatic meter reading (AMR) system that could pay for itself and reduce operation costs.

The utility also needed to upgrade its aging metering system since many of the electro-mechanical electricity meters were pushing 25 years of service, approaching their life expectancy. The question was whether to change-out all the meters, or retrofit some or all of the utility’s 1.5 million meters with Itron endpoint devices for automatic meter reading.

Niagara Mohawk provides electric service to approximately 1.5 million customers and natural gas service to about 570,000 customers in upstate New York. It is the second largest combined electric and gas utility in New York. The territory is expansive, 24,000 square miles, and meter readers are spread throughout the region.

“It’s a cumbersome and expensive project to retrofit electromechanical meters that are about 25 years old with ERTs,” said Evelyn Kaye, AMR project manager for Niagara Mohawk. “It became obvious that sending the meters to a vendor to have AMR modules

installed, redistributed and installed again – especially meters in service for nearly the duration of the life expectancy – would not be the most cost effective path to take.”

improvement

Improving Operations, Measurement, Accuracy with Itron’s Solid State Meters

Niagara Mohawk executives considered the overall costs of retrofitting aging meters and deployment efficiencies. The effort to pull out old electromechanical meters, install the ERT, clean it up and then replace the meter was an expensive operation, given the age of some of the meters. Although the utility originally considered purchasing some new meters and retrofitting the rest, after extensive research, company officials decided on 100 percent deployment of Itron’s solid-state CENTRON residential meter.

The CENTRON meter is the first economical solid-state solution for the residential market and is more accurate than traditional electro-mechanical meters. Solid-state meters have no mechanical parts and use electronic circuits to measure power. This accuracy enables utilities to improve revenue assurance and provide more accurate billing to their customers.

“With the CENTRON meter, we avoided the additional steps necessary to retrofit a meter, thus reducing shop and installation time,” said Tony Pini, NIMO senior vice president for customer service. “We now have brand new, state-of-the-art, AMR-ready meters that are more accurate.”

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results

Niagara Mohawk is First Utility Goes 100 Percent Solid State – Results Pay Off

This summer, Niagara Mohawk became the recipient of Itron's 10 millionth CENTRON meter, shipped from Itron's Oconee facility in August 2004. After seeing initial time and cost savings, Niagara Mohawk officials accelerated the installation process, completing the new meter installation of 1.5 million meters a year early.

With the CENTRON meter, a utility can capture usage data never captured before, translating into increased revenue. The CENTRON meter is one of the best in the industry for starting watts, watts loss and accuracy, said Malcolm Unsworth, vice president and general manager for Itron's hardware solutions group. Unsworth said the CENTRON meter is more accurate at loads below 700 watts (light load) and starts measuring energy at lower power levels (5 watts), thus capturing usage that usually goes unbilled. Solid-state meters also eliminate the drifting problems between the meter's register and the AMR read that can occur with electromechanical meters, again saving money by capturing usage that is generally lost.

As a rule of thumb, utilities save \$1 per meter per year with solid state meters, said Unsworth. Niagara Mohawk has 1.5 million CENTRON meters.

"The accuracy is much higher – like the difference between analog and digital – both work, but one is more precise and catches more usage data," Unsworth said.

"We've improved our safety records and are providing more accurate bills, which leads to improved customer satisfaction," Pini said. "The savings are showing up everywhere from meter reading to the call center. And, using one meter model simplifies Niagara Mohawk's meter population and inventory management."

Niagara Mohawk officials were impressed with Itron's ability to meet their delivery/installment requirements, often exceeding 100,000 installed units per month, though the contract only specified 65,000 per month.

Transportation costs, uniform costs and medical costs have also been reduced with the use of AMR and CENTRON meters. In addition, bills are now issued monthly in rural New York – previously residents received a bill every other month, which generated more calls and complaints because the amount looked higher than normal. The utility has increased cash flow with monthly billing. Savings are showing up with fewer re-reads and customer complaints, said Pini. Capturing more usage data, using fewer employees for meter reads and running the metering system more efficiency due to AMR and the CENTRON meter has sold Niagara Mohawk on Itron solutions.

"We have an entirely new meter system that is saving us money and more importantly, provides better customer service because of its accuracy," Pini said.

savings

Continual Savings, Tangible and Intangible

To date, Pini says Itron's solid-state meters have met and exceeded the utility's expectations. As a result of solid-state metering and AMR technology, Niagara Mohawk has chalked up an 83 percent reduction of labor costs. Once there were hundreds of meter readers spanning the region, said Pini. Now, the utility is down to double digits and expects to see even more labor savings in the near future.

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