Garden City, Kansas Reaps Benefits of Smart Grid for Electric and Water Customers

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Case Study

CUSTOMERS AND STAFF REALIZE TECHNOLOGY BENEFITS

Garden City, Kansas serves the water and electric needs for a population of more than 28,500 residents. As a municipal utility provider, Garden City is committed to providing affordable electricity and water to its citizens. The city turned to Sensus, its existing water meter provider, for solutions to update their electric and water meter reading processes and technologies.

THE CHALLENGE

For decades, Garden City relied on manual meter reads managed first through the city and subsequently through a contracted meter reading service.

Not only was this an additional cost to the city, it was an inconvenience for residents who sometimes complained when meter readers visited their property. Moreover, meter reads were challenging during winter months when snow and ice often prevented readers from accessing the meters, requiring bills to be based on estimated usage.

In 2008, Garden City began evaluating the need for a fixed-base advanced metering infrastructure (AMI) system that would enable remote meter reading, greater accuracy in billing and improved customer service. Garden City also sought a single solution for electric and water needs that would help control project costs and afford even greater efficiency in utility operations.

> Data is now gathered in 15 minute intervals and available at the click of a mouse.

THE SOLUTION

Garden City evaluated many different types of AMI systems before ultimately selecting Sensus as its smart grid technology provider.

Not only had Sensus proved to be a reliable partner in the past, the company was one of the only providers to have demonstrated success in serving the AMI needs of both electric and water utilities during more than 300 smart grid projects completed or underway.

The Sensus FlexNet™ AMI communications network is a point-to-multipoint network communicating via dedicated, licensed spectrum. Based on open standards, the system can support electric and water needs, as well as multiple smart grid applications, with one network simply by allocating multiple channels of spectrum.

By serving as a single communications highway, the Sensus FlexNet system was able to meet Garden City's immediate needs while also protecting their investment with support for future expansion of the smart grid program.

Garden City completed installation of Sensus iCon®A electric meters for 11,400 electric accounts. As an existing Sensus water customer, Garden City was able to simply switch registers on its existing 8,500 residential, commercial and industrial meters for the ICE Touch-Coupler register and install SmartPoints on each meter at the same location as the registers, reducing overall project costs.

Sensus was able to cover the entire service territory with only two FlexNet Base Stations located ten miles apart. City officials worked with Sensus and a contracted installation team to perform a preliminary audit of existing meter assets and installation, which all parties found to be a smooth, collaborative process.

THE RESULTS

Garden City completed installation of the FlexNet system and electric and water meters in late 2010 at a total cost of $3.3 million, financed by the city. Officials estimate a full return on investment for the electric program within three years.

Since deploying the FlexNet system, Garden City has already begun to reap early results. There were some initial cultural changes required as the utility adjusted back-end processes to manage the marked increase in incoming data from meters. These changes have driven significant operational improvements as billing staff are freed from time once spent correcting billing inaccuracies and customers can count on consistent, accurate bills.

> Leak detection and flow testing data is used to identify and address vulnerabilities throughout the distribution system.

Data from meter reads once took three days to be gathered and processed by the billing department. Today, information is gathered in 15 minute intervals and available at the click of a mouse. Billing staff use this data to address customer billing questions with precise, detailed information which has boosted customer satisfaction.

In addition, the utility is now able to identify theft of power and hardware as well as instances of meter tampering. Power can be remotely connected and disconnected, freeing valuable staff time previously spent visiting residences and businesses.

While the city is in the earliest stages of gathering data from the water utility, officials have received positive feedback from customers who have benefitted from significant advances in leak detection and notification. The utility is also using leak detection and flow testing data to identify and fix vulnerabilities throughout the distribution system.

Today, Garden City is focused on working with its citizens to ensure a smooth introduction to the smart grid while gathering data to support its investment.

Garden City plans to further expand its smart grid program in the next three to five years to include demand response applications and home area networking with in-home devices, and is also considering implementing time-of-use rate pricing.

As their experience with the smart grid matures, Garden City officials look forward to the continued benefits these technologies will bring the city and its residents, and will continue to share key lessons learned with other utilities and the industry at large.

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