

# AMI technology enhances customer service

*With advanced metering infrastructure, a Florida gas utility can collect detailed consumption data and improve its billing process.*

David Farris, Sensus, Dallas, Texas

Take a look at any utility industry and a common thread is the increase in customer requirements and business pressures regarding the amount and frequency of collecting data. While Advanced Metering Infrastructure (AMI) systems are well established in the electric and water utility industries, gas utilities have yet to fully embrace AMI and often opt instead for more conventional walk-by and drive-by Automatic Meter Reading (AMR) systems.

New generations of AMI systems, however, are eliminating traditional barriers for gas utilities, such as daunting infrastructure requirements and limited technology. Today's AMI solutions are holistic and now incorporate the best of AMR. With stable and sophisticated platforms, AMI technology allows for system upgrades without visiting the customer's home or disrupting service.

Moreover, a gas utility can quickly realize a return on its investment because the industry-responsive technology yields higher efficiencies in operational costs and human capital across its entire infrastructure. These attributes combine to create highly attractive features for a gas utility, including one that solidifies the business case for decision makers: The need for a minimal infrastructure.

Minimal infrastructure means fewer pieces required to collect data over a larger area. Minimal network requirements also reduce maintenance costs and require fewer field personnel, translating into lower fuel and vehicle costs. Considering the many benefits of AMI technology, there are several gas utilities leading the way in making the transition from an AMR to an AMI network.

## Case study

Energy Services of Pensacola (ESP) is a prime example of a gas utility that has

adopted the latest technologies to streamline its operations. ESP made a successful transition from a walk-by meter reading system, which produced only one read per customer per month, to cutting-edge AMI technology that is revolutionizing operations, maintenance and customer service.

ESP, which is owned and operated by the City of Pensacola, supplies natural gas to 46,000 customers in Escambia County (except Pensacola Beach and Century), three naval bases and an airport through 1,600 miles of pipeline. The utility maintains a close relationship with its community, not only by providing natural gas energy, but also by offering a variety of additional services related to energy education and resource conservation.

In 2006, ESP and Pensacola city officials formed "process improvement teams" to investigate ways to use technology to streamline operations. The meter reading process presented the greatest opportunity for return on investment.

"We initially found that a drive-by system presented a great solution in meter reading efficiency, but our continued investigation discovered that a fixed network AMI system gave us the efficiency we desired with additional benefits that enhanced customer service. To us it was a solution that delivered technology, operational cost-efficiency, and optimized use of human resources," said Chuck Good, assistant director of ESP. "We agreed that the best way to go was to pursue a comprehensive data collection system and began our search for a vendor."

The team spent a year researching options, and ultimately chose to deploy FlexNet, by Sensus, in 2008, launching a collaborative partnership



New generations of AMI systems are eliminating traditional barriers for gas utilities.

with Sensus and local distributor Equipment Controls Company (ECCO). The system is the utility industry's most reliable and flexible AMI fixed network utility meter reading solution, which is designed to increase meter reading efficiency, reduce overhead costs, and enhance customer service. With this solution, ESP uses the latest technology to service its 600-square-mile territory and help customers make thoughtful, environmentally-sound decisions. The utility's marketing department has realized the value of the new system as well.

### Enhancing customer options

New customers are educated about the advanced technology and appreciate the fact that their meter is read remotely, especially as this means that accurate readings are available at any time during the month with just a phone call. It has also proven useful with existing customers that have complaints or questions about their bill. Now, when customers request an energy audit, ESP representatives are able to review their consumption on a day-by-day basis, even hour by hour if necessary. "This allows us to point out spikes in their consumption so we can better understand their usage habits," said Good. "This allows us to perform a more in-depth energy analysis resulting in a satisfied customer who truly understands how to conserve on their energy bill."

### Maximizing network connections

The new system uses exclusively licensed radio frequencies to insure that the utility data has the greatest probability of reaching its destination than any other system in the market. With the primary license, this system is protected by FCC regulations, which ensures no other applications can share the spectrum without penalty.

In addition to the dedicated and FCC-protected spectrum, Good said the minimal infrastructure the system needed for installation was a key decision factor. "The need for less infrastructure than

other systems really stood out to the team, as well as the FlexNet system's life-cycle cost, which was the lowest of all systems evaluated," Good added.

The solution requires just six towers – as compared to 100 pole top collectors required by other systems – to cover the entire ESP service area. And thanks to a partnership with Escambia County, ESP was able to reduce deployment costs by utilizing available space on existing county communications towers. The resulting network works very well; one tower in the northern section is reading meters up to 15 miles away. Plus, acquiring usage information for homes along the giant, scenic bluffs that lead into Pensacola Bay isn't a challenge, since the system easily communicates with the meters.

"While we know that the new network will save operations, maintenance and personnel costs, it's the increased information that we are immediately benefitting from," said Darryl Singleton, technologies manager at ESP and project manager for the utility's move to AMI.

### Improving operations

The ability to collect hourly usage data for each of its customers provides ESP with a volume of detailed information for customer service and billing purposes. For example, the daily readings eliminated fluctuating billing periods and estimates caused by weekends, holidays or access issues that prevented readings. Now customers receive consistent bills and can better manage their monthly budget. Good added, "The big seller for us is customer information. Now, we can physically see a customer's consumption down to the day and hour—almost to the minute. It works out great. Our staff uses the additional information every day. It's amazing how quickly they can reassure a concerned customer by explaining how much gas was used and when."

In addition, ESP is leveraging new benefits, such as lower operations costs and a smaller carbon footprint from fewer trucks being dispatched to reread meters

or take off/on readings for transient customers. ESP is recognizing an estimated savings of \$200,000 annually from the reduction in manual procedures.

"We recognize the significance of ESP's selection of our FlexNet system and are proud to partner with such a progressive utility operation as this. Being one of the first gas utilities in the nation to embrace and deploy a complete AMI system speaks volumes to their vision," said Tom Galuska, of Sensus. "Our partnership with ESP illustrates how a vendor-customer relationship with the same goal of enhancing customer service can produce an efficient, reliable meter reading and communication system for the utility's end users. That's the approach ESP took and we believe it was the right one."

### AMI and gas distribution

ESP officials believe their selection and deployment of the new solution is just the start of a long path of utilizing technology. They are already looking for ways to optimize the system's inherent flexibility, and its expansive bandwidth that can easily handle service territory and technology growth.

"The gas utility industry is evolving every day with new technologies that will enable companies such as ESP to provide additional services to our customers, as well as devices for meters and distribution lines that will streamline our operations," said Good. "We believe that the new system provides a strong communications platform for us to be an efficient, customer-oriented, smart-utility organization. Now that we have the infrastructure in place, we're ready to grow with it."

As the gas utility industry continues to evolve, AMI solutions like the FlexNet system from Sensus lay a strong foundation for a gas utility to be an efficient, customer-oriented, smart-utility organization. ■

#### The author

David Farris is Senior Product Manager of Gas Smart Grid Endpoints for Sensus. Farris is based in Dallas, Texas.