

South Bend, Ind.—One Year Later

When we set out to do a pilot of our new grid management technology, called gridSMARTSM, in South Bend, Ind., in 2008, we were excited about all of the possibilities.

Based on tests with our vendors, we knew that the distribution automation and meter technology functioned in laboratory settings and we were confident it would work in a real-world setting. We also knew the nascent thermostat technology needed to be tested in the field. What we didn't know was how our customers would respond to the new opportunities we gave them to better understand and manage their energy usage. In short, we didn't know how the human element would work.

What we've learned is that the technology and the human element can work quite well. To be sure, there were technology glitches, but we worked through those. Now we have almost 10,000 smart meters attached to a sophisticated grid communications system that lets our customers see how much energy they used the previous day and allows our staff to manage many grid functions remotely.

For example, to read a meter or start or stop service to a home on the smart grid, we no longer need to send an employee. Those functions can be done remotely, saving us time, fuel and wear and tear on our equipment. Furthermore, if there is a problem on the distribution grid, we can automatically isolate it and restore power to customers located in the unaffected portion of the grid, thereby minimizing service disruptions. Finally, this new technology allows us to detect theft of electricity more easily.

The South Bend pilot is teaching us that the savings we get from greater internal efficiencies are about in line with what we expected. It is also teaching us that we may need to market differently to educate consumers more about the benefits of the new customer programs that are possible with this technology.

For example, we offered a new time-of-day rate, in which customers would pay less for electricity than they normally would for power used during off-peak hours, but substantially more for power used during peak hours. The goal is to encourage customers to shift their power usage to lower demand periods. They could save money through careful use of energy and we could avoid investing in capacity to meet higher demand. Ninety-seven customers signed up for the first year, which was a success, even though the pilot allowed for up to 500 customers. When we asked those who didn't enroll why, many said the new program did not suit their lifestyle, but a surprising number indicated they weren't aware of the new services. This indicates a need to better educate our customers.

Another voluntary feature the technology allows is the direct control during periods of high energy demand in the summer of a company-installed, programmable communicating thermostat in the customer's home. In exchange for a \$5 reduction in their monthly bill, customers agreed to allow us to increase their thermostat in two-degree increments, up to four degrees a day, during the peak cooling season. We successfully controlled customers' thermostats eight times during the 2009 cooling season and achieved the savings we expected to achieve, per event. Customers retained the ability to override our settings. Although some technology glitches affected the amount of time we could offer the program the first year, we had significant customer interest and 24 customers partnered with us to evaluate this new offering. We have worked closely with our industry partners to improve the technology and will start marketing earlier for the second cooling season.



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We've learned that the technology can help us shave peak demand and that we need to adjust the program so that everyone's goals are achieved. We are modifying the program for the summer of 2010 to increase the monthly incentive to \$8. However, if the customer overrides the program once, the incentive drops to \$4 and goes away entirely if they do it more than once. We think this approach aligns the customer incentive to save with the need to reduce demand during peak periods.

Finally, we have learned that we must continue to work with our partners and regulators to fine tune the system so that the technology, our customers and our internal needs can all work in harmony.