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Meters spur 'smart' electricity solutions

Under new pilot program, green digital devices send data by radio, save power

By AARON NATHANS
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Delmarva Power took its first steps this week toward the vision of a "smart grid" that President Barack Obama touts as needed for energy independence and to control greenhouse gases leading to global warming.

On a sunny Thursday afternoon, Delmarva technician Sean Momot walked through the Penn Acres neighborhood near New Castle, replacing old-fashioned electricity meters with "smart meters."

The digital devices use radio waves to relay to Delmarva headquarters how much electricity a customer is using in 15-minute increments, as opposed to getting a reading from a human meter reader.

"What we are trying to accomplish here is enabling our customers to use energy more efficiently," said Delmarva Power President Stockbridge.

The meters will allow Delmarva to know instantly when the power goes out in a home. Currently, the utility must rely on phone calls to know where outages occur.

They'll eventually help customers get a better read on their electricity use as it occurs, not having to wait for a monthly bill. And ultimately, they could allow electric utilities to charge higher or lower prices for electricity, depending on the time of day, as customers adjust their habits.

Delmarva is installing its first smart meters this week as part of its pilot project, which will eventually hook up the meters to 10,000 homes in Delaware. Delmarva spokeswoman Bridget Shelton said the utility chose the areas for their diversity: two ZIP codes in areas north of Wilmington, the more rural Frederica and Magnolia; and this suburban area.

Each one has its own landscape, whether it's tall buildings, homes, or open land, and Delmarva will need to test its system in each setting, Shelton said.

The pilot project installations are expected to be finished by July, she said. Testing will commence, and if the company deems the pilot a success, it will install the meters in every one of its approximately 300,000 homes and businesses in its Delaware service area by the end of next year.

Meters for Delmarva's natural gas customers also will be retrofitted with special "smart" devices.

With an in-home monitor or using a Web page, people will be able to chart upticks in their electricity use, and know how much they're spending at any given time, said Chris Schein, spokesman for Oncor, an electric utility in northern Texas. The utility is in the process of installing the same advanced meters into 3 million homes and businesses by 2012.

In Texas, air conditioning gets a lot of use. Using the technology, users could watch their electricity bill go up in real time as they turn their air conditioning two degrees colder, he said. "You can ask yourself, is it worth it?"

Pepco's utility in the District of Columbia also has a voluntary pilot project where electricity prices fluctuate during the day, depending on whether customers use electricity during high or low demand periods. So, customers could choose to dry their clothes at night, when usage is typically low.

Stockbridge said this option could be available in Delaware on a pilot basis late next year.

The meters should save money over time , but are costly. The initial trial in Delaware will cost \$2 million, Shelton said. It's unclear how much full deployment will cost.

That's in part because the federal government has put aside \$4.3 billion for "smart grid" initiatives. Some of that will flow toward the meters, but exactly how hasn't been determined yet.

Schein said the devices will cost customers an extra \$2.21 a month over 11 years, not including the electricity savings.

Bill Preis, the homeowner who got a smart meter Thursday in Penn Acres, didn't sound too excited to be one of the first Delmarva customers to get the new technology. Customers were not asked whether or not they wanted the new meter. The Public Service Commission approved the pilot program.

Preis, 82, is still a working electrician and noted that the city of New Castle's municipal utility already has the devices.

Preis said it's unlikely to change the way he uses his electricity.

"You know, we're used to living the way we're used to live. People just do," said Preis, who said he doesn't use much electricity. "You think about it when the bill comes in."

Additional Facts

WHAT'S DIFFERENT?

Delmarva says its advanced new "smart meters" can:

- Send consumption data directly to the utility
 - List tariff rates via in-home displays or the Web
 - Ask consumers to cut usage at critical times
 - Alert work crews if power is lost
 - Provide information to consumers about appliance-specific electricity and gas consumption
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