

Smart meters show promise, but not right away

Delmarva Power to launch user education programs

By AARON NATHANS • The News Journal • June 22, 2010

DOVER -- The energy device of the future is arriving in Delaware homes, but it will be a while before all Delmarva Power customers can use them to curb their **energy use** and save money.

Electricians are installing more than a thousand smart meters a day, as Delmarva works to set up a two-way communication system that, starting next year, will eliminate the need for meter readers and alert the utility the moment power goes out anywhere.

But smart meters have also been touted as a tool enabling consumers to save electricity. Delmarva customers will eventually be able to log on to a **company** website and check how much electricity they used during each hour of the day, and sign up for a program to cycle their air conditioners on the hottest days.

These services, however, may not be available systemwide until the end of 2013. Later could come the ability to receive **text messages** that one's power has gone out, or come back on.

And the further promise of a "smart home" -- where a customer knows how much electricity a particular appliance is using, and can control it remotely through the meter -- appears years away.

"Consumers had an expectation that they're immediately going to be able to save energy," said Katherine Hamilton, president of GridWise Alliance, a smart grid advocacy group. "No. It's just a meter."

The meters are the smallest cog in the "smart grid," envisioned as a more reliable, renewable and efficient national power **transmission** system.

New communication technology holds the promise of allowing grid managers to route electricity to wherever it's needed at any given time, quickly. It will allow wind power to come on and off the grid with greater ease, and bring greater precision to the use of expensive natural-gas plants that must kick in when everyday power plants don't provide enough electricity.

A smart grid also would detect potential overloads, and send out alerts to customers, through their utilities, to cut back on usage, reducing strain on the grid that can lead to blackouts or harsh rationing such as brownouts.

Hamilton says smart meters are an important part of that future. But given their novelty and some early customer angst, utilities will need to engage ratepayers and public officials to realize the benefits, she said.

"The benefits are still theoretical at this point," said Mindy Spatt, communications director with The Utility Reform Network in California. "They cost customers a lot of money, and they've made a lot of consumers very unhappy."

To a degree, that has been the story on the West Coast, where Pacific Gas & Electric confirmed last month that 45,000 of its smart meters have not worked properly. About 5.7 million have so far been installed in the huge utility's territory.

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The utility attributes about half of the problems to gas-meter installation errors. Others are accidentally rebooting or failing because of faulty equipment.

Delmarva is using the same manufacturers for electric meters and communications equipment as PG&E but the pilot project here is going smoothly, said Bridget Shelton, Delmarva spokeswoman. Delmarva received next-generation communication equipment after the California problems were flagged, she noted.

"As with any technology that comes off the production line, there are risks that a consumer takes when purchasing that equipment, such as, will it work as promised?" Shelton said. That's why Delmarva is testing the equipment, she said.

The Delaware pilot project includes testing the system on about 7,000 electric meters already installed, Shelton said.

There are already 120,000 smart electric meters installed in Delmarva's 300,000-customer Delaware service territory, and that's increasing by 1,200-1,500 a day, she said. The utility will continue to use manual readers until the communication system is up and running by next spring, Shelton said. Meter readers are likely to be moved into smart-grid jobs, she said.

Delmarva hopes the Public Service Commission next year will approve a rebate program encouraging customers to use air conditioners less on the hottest days.

The resulting pilot project would start in summer 2011, including the first usage of the Web portal, where customers can view their real-time usage.

Delmarva expects all of its customers to be eligible for the program, and to use the portal, by the end of 2013, under the company's tentative timeline, she said.

Spatt said the system's benefits are small, considering the scope of the \$86 million investment. She said it doesn't take a smart meter to run an air-conditioner cycling program.

"For consumers, the benefits are years and years

away, if at all," Spatt said.

Bob Mobley of Hockessin, who now has a smart meter, said he might try to save money by using electricity at off-peak hours, but is unlikely to consult his computer regularly to monitor usage. He turns off his lights and turns back his thermostat when the house is vacant, and has purchased energy-efficient appliances.

"Seeing it on a graph or seeing a daily presentation, I don't think that's going to help me," he said.

Dawn Jaquette of New Castle said Delmarva officials have been to her home twice because they believed her new smart gas meter was malfunctioning. She said they might be wrong, since her family has cut back dramatically on its home heating use to save money.

Jaquette said she'd love to know how to use her meter to save money -- particularly with two teenagers -- and is frustrated that she hasn't received instructions.

"There's always a stereo going, a TV going, a Wii, a computer," she said. "I want to know how I can use that to my benefit now."

Shelton said Delmarva will roll out an "ambitious" educational campaign in the next two years, explaining the programs to ratepayers.

Delmarva is asking Delaware ratepayers to contribute about \$1 million toward planning a

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smart-meter network in Delaware, under its current rate case before the PSC. That leaves for the future the question of how much Delmarva customers will be asked to pay toward the balance of the investment.

Much of that -- although it's unclear exactly how much -- will be paid for by operational savings, with the rest expected to be added to customer bills in the future.

The Delaware Electric Cooperative has installed more than 99 percent of its smart meters, and won't be charging customers, since the operational savings will eventually pay off the entire cost, said Mark Nielson, vice president of staff services.

The real-time information is important, given the rural nature of the co-op's service area, and problems will be located more quickly, Nielson said.

"It's sort of morphed into our outage management system," Nielson said. Conservation programs will be coming soon, he said.

Hamilton said most of what utilities know about how useful smart meters are for customers has come from pilot projects.

"Part of the issue has been a lack of articulation around these benefits, and a lack of data around these benefits," Hamilton said. "That's where you're getting pushback, if you don't have people engaged up front, in a very collaborative effort."

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Sean Momot, a Delmarva Power serviceman, installs a smart meter on a home in New Castle. The meters communicate with the utility and have the capability of breaking down consumption amounts among appliances. (News Journal file/JENNIFER CORBETT)

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The smart meter will fit in place of the old meter. Delmarva plans to start a pilot project with them in 2011. (News Journal file/JENNIFER CORBETT)

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