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Smart Meters and Current Regulatory Concerns

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Overview of the Smart Meter Drama



We Will Address

- What is the Smart Grid?
- What are smart meters?
- Public demands for opt-outs
- Tips for regulators

What is the Smart Grid?

In its simplest terms, the phrase “smart grid” refers to **digitizing and upgrading the electric infrastructure to allow for multi-way communication**. Currently the electric delivery system provides one-way communication. As the grid evolves and is upgraded, many parties will have access to energy data and will be able to communicate with the grid. The smart grid will evolve over time

The General View is That a Smarter Grid Will Accomplish the Following:

- **Enables active consumer participation:** The goal is to provide customers with access to more consumer friendly information about their electricity usage, pricing and incentives. The hope is that this new knowledge will influence usage behavior. This leads to a more efficient and reliable operation of the overall grid
- **Accommodates all generation and storage options:** A smarter grid will integrate power generation and distribution from multiple and widely dispersed sources such as solar, wind and other energy sources including emerging storage technologies
- **Enables new products, services, and markets:** A smarter grid enables the creation of new electricity markets, from the energy management system at home to technologies that allow consumers and third parties to bid their energy resources into the electricity market

Accomplishments

- **Provides power quality for the digital economy:** A smarter grid provides power quality for the digital economy; helping to monitor, diagnose, and respond to power quality deficiencies. It will dramatically reduce customers' losses due to poor power quality
- **Optimizes asset utilization and operates efficiently:** A smarter grid will optimize asset utilization and enable efficient operation by improving load factors, lowering system losses, and managing outages or faults in an enhanced manner. Outage recovery time will improve
- **Anticipates and responds to system disturbances:** Most of the time, an electric company does not know about an outage until notified by a customer. A smarter grid will perform continuous self-assessments to detect and analyze issues, take corrective actions to mitigate them and rapidly restore grid problems as necessary. These digital technologies can also handle problems that are too large or quick for human intervention. A smarter grid is often referred to as a self-healing grid
- **Operates resiliently against attack and natural disaster:** A smarter grid protects against outside forces by incorporating a system-wide solution that reduces physical and cyber vulnerabilities and enables fast recovery from disruptions

What are Smart Meters?

Smart meters represent one component of the advanced metering infrastructure (AMI). Although data to and from smart meters may be transmitted through wired connections, many smart meters make use of miniature, low power radio transceivers to wirelessly communicate with the electric utility and with the Home Area Network (HAN) that provides home owners with the ability to interact with electrical appliances and systems within the home

Generally, Smart Meters Will Provide Benefits That Include:

- Remote meter reading
 - which eliminates the need for someone to go onto a customer's property to read the meter
 - eliminates estimated bills
- Improved Reliability
 - Outage notification, which automatically notifies the utility of an outage,
 - helping to pinpoint exactly where the problem is and making it possible to restore electricity more quickly
- Efficiency
 - Smart meters will also help utilities run more efficiently by providing them with a more accurate picture of energy usage, which they can use to help them anticipate consumers' electricity needs throughout the day. Just as the change from analog to digital TV signals in 2009 set the stage for technological improvements, the change from traditional (analog) meters to digital smart meters will allow utilities to increase reliability and service quality to their customers

Health Concerns

Lead to Smart Meter Opt-Outs

Quotes From Smart Meter Opponents in California

- “We can have a smart grid. We can have Smart Meters. But for the folks who feel they get headaches and have concerns about (radio frequency) radiation, let’s provide them an alternative so we can all move forward together.” Assemblyman Jared Huffman, Marin County (“*2-week deadline for PG&E’s SmartMeter opt-out plan*”, San Francisco Chronicle, March 11, 2011)
- “Delaying installation doesn’t help. The only thing that is going to get us toward a solution is to retain the analog meters and allow people who have been sickened by the Smart Meters to get their analog meters back.” Joshua Hart, *Stop Smart Meters* (“*PG&E eases stance on CEO package, Smart Meters*”, San Francisco Chronicle, April 26, 2011)

Quotes From Smart Meter Opponents in California (cont'd)

- Capitola passes an ordinance making it a crime to install smart meters (2/11/11). Also, the following local governments pass moratoriums on smart meter installation:
 - Lake County
 - Marin County
 - Mendocino County
 - Santa Cruz County
 - Fairfax, Rio Dell, Ross
 - Seaside, Watsonville
 - Big Valley Rancheria/Tribal Community of Pomo Indians

Quote From the City of Capitola – Ordinance

- “WHEREAS, significant health questions have been raised concerning the increased electromagnetic radiation (EMF) emitted by the wireless technology in Smart Meters, which will be in every house, apartment and business, thereby adding additional human-made EMF to our environment around the clock to the already existing EMF from utility poles, individual meters and telephone poles”

Opt-Out West

California Details:

- The opt-out option means offering an analog meter, not simply a radio-off option on the smart meter
- Customers can opt-out for any reason
- Customers electing the opt-out option will pay an initial fee of \$75.00 and a monthly charge of \$10.00. CARE customers will pay an initial fee of \$10.00 and a monthly charge of \$5.00
- There will be a phase II in order to determine who ultimately pays for the opt-out

Opt-Out West (cont'd)

CPUC Says Opt-Out is a Service

“This opt-out option is a service because the standard for metering has been transitioned throughout the country and for the most part the world from the older technology, analog meters, to today’s technology, smart meters. In this decision we are not reversing that transition, however, we do approve an option for those customers who, for whatever reason, would prefer to not have a wireless smart meter.... As a result, this decision further finds that customers electing the opt-option shall be responsible for costs associated with providing the option.”

Opt-Out Southwest

Texas Details:

The Public Utility Commission of Texas received a joint petition filed by 119 Petitioners, requesting the PUCT initiate an emergency and ordinary rulemaking to prohibit further deployment of smart meters

- The petition also wanted the PUCT to require the removal of smart meters already installed
- Two hundred and seventy seven comments were filed regarding this petition with most of the comments expressing health and privacy concerns regarding smart meter deployment

PUC's current Proceeding to Evaluate the Feasibility of Instituting a Smart Meter Opt-Out Program (Project No. 40190) and an examination of these issues will occur in that proceeding

Opt-Out Midwest

Michigan Details: (Case No. U-17000)

The Commission has learned that at least nine local communities across Michigan have by resolution implored the Commission to either:

- make information about smart meters available to the public,
- investigate the safety of the physical attachment of a smart meter to a residential dwelling house,
- halt ongoing efforts by regulated electric utilities to deploy smart meters throughout their service territories, or
- force these electric utilities to allow concerned customers to “opt out” of having a smart meter attached to her or his own dwelling house

Opt-Out Midwest (cont'd)

Michigan Details: (cont'd)

Commission opened an investigation asking utilities to answer nine questions:

- (1) The electric utility's existing plans for the deployment of smart meters in its service territory;**
- (2) The estimated cost of deploying smart meters throughout its service territory and any sources of funding;**
- (3) An estimate of the savings to be achieved by the deployment of smart meters;**
- (4) An explanation of any other non-monetary benefits that might be realized from the deployment of smart meters;**
- (5) Any scientific information known to the electric utility that bears on the safety of the smart meters to be deployed by that utility;**
- (6) An explanation of the type of information that will be gathered by the electric utility through the use of smart meters;**
- (7) An explanation of the steps that the electric utility intends to take to safeguard the privacy of the customer information so gathered;**
- (8) Whether the electric utility intends to allow customers to opt out of having a smart meter; and**
- 9) How the electric utility intends to recover the cost of an opt out program if one will exist**

Opt-Out South

Georgia Details:

Georgia started to address consumer smart meter concerns with the passage of Senate Bill 459

“(i) Notwithstanding any other provision of this title, the commission is authorized to provide that consumers may elect not to use smart meters of any investor owned electric light and power company subject to regulation by the commission; provided, however, that **the commission shall not create and regulate a surcharge for consumers who make such an election.**”

* Senate Bill 459 died in the House

Opt-Out East

Maine Details:

On January 4, 2011, the Maine PUC voted unanimously to open an investigation at the request of complainants citing health concerns. (Docket Numbers 2010-345, and 2010-389). The Commission states the investigation will examine:

- The possibility of local opt-outs to the program already being implemented and installed by CMP;
- The possible effect of such an opt-out on the original federal Department of Energy (DOE) grant which helped fund approximately half the cost of the program;
- The availability of hard-wire alternatives from CMP;
- Cost implications of any alternatives; and
- What impact the alternatives would have on the smart grid program's goals

Opt-Out East (cont'd)

Maine Details: (cont'd)

- Attorney Beth George of Scarborough, MI, is just one of several CMP customers requesting an investigation. Her letter to the Commission expressed concern about a few of her neighbors:
 - *“I just received a call from my mother’s neighbor only to learn that two of her neighbors died of heart failure within the past six weeks.”*

Maine Order

- The Maine Public Utilities Commission issued orders (Docket No. 2010-345, et al) requiring Central Maine Power to implement an opt-out program. CMP must provide residential and small commercial customers with four choices:
 - The default smart meter which will become the standard meter in CMP territory;
 - The ability to select a smart meter with the transmitter-off;
 - The ability to keep the customer's existing analog meter; or,
 - The ability to move the new smart meters elsewhere on their property at the customer's expense

Maine Order (cont'd)

- The costs to customers for the various options will be:
 - For the electro-mechanical meter option: an initial, one-time charge of \$40.00 and a recurring monthly charge of \$12.00
 - For the standard wireless “smart meter” with the NIC operating in receive-only mode: an initial, one-time charge of \$20.00 and a recurring monthly charge of \$10.50
 - For any customer that does not enroll in the opt-out program within the 30 day period and later chooses to do so: a \$25.00 surcharge. CMP may waive the surcharge if it determines there is a sufficient reason for the customer’s failure to notify CMP within the 30-day period

Maine Order (cont'd)

- An important technology that will ultimately reduce utility operational costs, improve customer service and provide customers with necessary tools to use electricity more efficiently and lower their electricity bills,
...

Order Approving Installation of AMI Technology, Docket No. 2007-215 (II) at 2 (July 28, 2009)

- In light of the magnitude of concerns among a significant portion of its customers, CMP's response that those concerns lack of credible scientific evidence misses the point ... it is clearly an unreasonable act and practice for a utility to ignore concerns of a significant number of its customers and refuse to permit a smart meter opt-out option if doing so is technically and economically feasible and those customers assume and bear the additional costs
Order Investigating AMI, Docket No. 2010-345, et al (II) at 12 (June 22, 2011)

Some Questions for Regulators to Consider

- Should advanced meters be mandatory or voluntary?
- How do you craft a potential opt-out option that does not undermine either the advanced metering business case or utility system smart grid operation?
- How should the cost of any opt-out provision be allocated?
- Should costs be allocated to those that opt-out? or
- Should costs be “socialized” and distributed across all customers?
- What implications does a metering opt-out provision have for rate, demand response, electric vehicle and other smart grid initiatives?

Privacy Issues for Utilities to Manage

- What is your privacy policy?
 - Who will you share the data with?
 - Will you sell it, if so, in what form?
- Review contracts with Vendors
 - Collection Companies
 - Low income program administrators
 - Energy Efficiency program coordinators
 - Consultants

Utility Employees should be Educated

- What's the smart grid?
- What's a smart meter?
- How do the meter's work?
 - What can you do remotely?
 - What will you do remotely?
- Privacy?
 - What is your policy?
 - 3rd party vendors?
 - New players
- Need to be able to explain ***the value*** of your smart grid program to customers

Suggested Communication with Customers

- Early and often
- Multiple Channels
 - Youtube
 - Facebook
 - Twitter
 - Radio
 - Shopping Malls
 - Box Store Demos
 - Your Employees
 - Schools
- Contest

Customers (cont'd)

- Smart Grid Website
 - Deployment Schedule
 - FAQs
 - Success Stories
 - Video Explanation
 - Links to other resources

For More Information

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