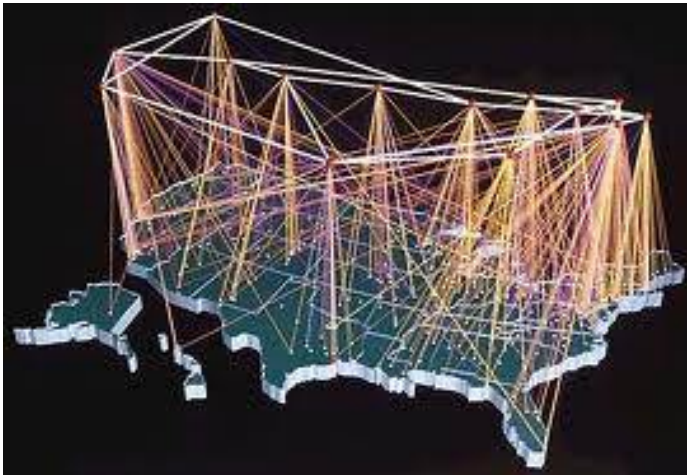


The Smart Grid and State Public Utility Commissions: Regulatory Challenges



Greening the Grid: Innovation for our Electricity Infrastructure

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Disclaimer

This PowerPoint presentation represents the views of Diane Ramthun, an attorney with the Wisconsin Public Service Commission, and not of the Commission itself, its Commissioners, or any other staff person of the Commission.

The Role of State Public Utility Commissions in Regulating the Smart Grid

Smart grid improvements to the generation, transmission and distribution systems of the nation's electric grid are being made by electric public utilities, primarily large investor-owned companies.

State public service commissions are responsible for ensuring that these utilities' smart grid investments, as well as the related services and practices, serve the public interest as well as those of the utilities.



What Is a Public Utility?

“...a business organization deemed by law to be vested with public interest usually because of monopoly privileges and so subject to public regulation such as fixing rates, standards of service and provision of facilities.”

Webster's 3rd New International Dictionary, Unabridged (1993)

Key elements: public interest and monopoly privileges



Smart Meters

“The smart meter is likely to be the most contentious aspect of the smart grid, concerning consumer reactions and cost-benefit justification of the investment . . . “

Statement by the Public Utilities Commission of Colorado on March 30, 2011, in an investigatory docket relating to smart meters.



Disparate Impacts on Different Consumer Groups

In rate cases, rulemakings and policy statements, Commissions have identified concerns that smart meters and associated dynamic rate designs may not equally benefit all consumer groups.

- Low income, elderly and disabled consumers may not have the means or ability to purchase the related home area network (HAN) technology to enable them access to their usage data order to use time-of-day rates.
- Consumers who cannot shift usage to off-peak times, particularly the elderly and disabled, may experience higher energy bills instead of benefiting from dynamic rate designs.



Consumer Issues, cont'd:

- Remote disconnection functionalities of smart meters may allow utilities to more quickly shut off power to consumers with small unpaid bills than would otherwise occur with traditional meters.
- Consumers may be reluctant to adopt the new, smart meter-related technologies such as the HAN, necessary in order for them to take advantage of the functionalities of smart meters, but which require an education to use.



Cost/Benefit Question

In 2010, Commissions in Michigan, Hawaii, and Indiana required large smart meter projects to be scaled back in order to lower costs.

The Maryland Commission, in 2010, initially rejected a \$800 million project proposed by Baltimore Gas & Electric (BG&E) because of the high cost to benefit ratio, and other consumer interest concerns.

The New York Commission in a 2011 Smart Grid Policy Statement found that utilities' operational benefits from smart meters alone do not justify their costs.



Cost/Benefit Question cont'd.

Rapidly evolving smart meter technology, particularly the communications function, can render expensive smart meters obsolete within a few years, unlike traditional meters which are very long lasting.

- In California, thousands of smart meters became obsolete within a couple years of installation as technology changed before the meters were fully depreciated.
- In 2010, the California Commission granted Pacific Gas & Electric (PG&E) funding through rate hikes to upgrade the obsolete smart meters.



Cost Recovery Issues

In 2010, the Maryland Commission found that recovery through a surcharge would unfairly impose the entire risk of BG&E's smart meter project on ratepayers, and rejected it in favor of traditional rate-making.

Texas, by rule, allows for cost recovery by surcharge if a smart meter project meets certain minimum functions.

Following a several year battle before the Illinois Commission and courts, the Illinois legislature recently overrode the Governor's veto to pass a \$3.2 billion ComEd statewide smart grid build-out that will be recovered through annual rate hikes.



California's New Privacy and Security Rules

The California Commission on July 29, 2011 adopted rules relating to consumer privacy and security of the electric usage data of three major California investor-owned utilities. These rules also cover access to customer usage data by customers and authorized 3rd parties.



California's New Privacy and Security Rules, cont'd.

California Commission: Certain risks exist for consumers who have smart meters and home area networks at their homes.

- Smart meters can allow persons outside a home to determine if it is occupied, creating security risks.
- Smart meters and HAN can allow persons outside a home to acquire personal information, such as what appliances and medications are inside the home.
- Data about personal energy usage can be sold to third parties to create detailed portraits of the habits, lifestyle, and purchases of the consumer.



Smart Meters Have Been Met With Widespread Consumer Opposition in California



PG&E's plan to install millions of smart meters has been met with widespread resistance from consumers concerned with health and privacy impacts. Here are some recent headlines in California publications...

JUST SAY NO TO BIG BROTHER'S SMART METERS



[Stop Smart Meters!](#)

Consumers Complain to California and Maine Commissions That Smart Meters Are Hazardous to Public Health

Widespread consumer opposition to smart meters has developed in California based on concerns about radio frequency emissions (RF) from smart meters.

The California Commission directed PG&E to develop a plan for residential consumers to be able to opt-out of smart meters.

PG&E filed its proposal in March 2011 offering a radio-off option that would carry up-front, monthly and exit charges. PG&E estimates that 145,000 customers may choose this option in the next couple years.

The California Commission has not yet ruled on this proposal.



Consumer RF Concerns and Opt-Out Plans, cont'd.

Customers of Central Maine Power Company (CMP) complained that the utility did not allow them the option not to have a smart meter installed. Their complaints raised health concerns over RF signals from the meters.

The Maine Commission in June, 2011 found that CMP should not have ignored these concerns and that it was unreasonable for CMP not to have offered an alternative to the smart meters installation.

The Commission's Order required CMP to offer opt-out options to residential and small commercial customers and allowed for CMP to charge additional fees for this service.

SMART METER



**DO NOT INSTALL
SMART METER HERE**

State Commissions Have Investigated the Accuracy and Reliability of Smart Meters

In 2010, California and Texas Commissions in response to consumer complaints about high electric bills ordered independent studies of the accuracy of previously deployed smart meters.

Both studies showed that the smart meters are reliably accurate and that the high electric bills were due to other factors such as weather.

Ohio currently has an open Commission-ordered investigation on the testing and verification of advanced metering infrastructure installations.



Questions?

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