Grid Modernization: Keeping the Focus on Consumers

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Critical Consumer Issues Forum (CCIF)

- A collaboration of regulators, consumer advocates and utility industry stakeholders
- Each year, the executive committee of CCIF picks a consumer focused topic to analyze
- In its first year, the CCIF chose "Smart Grid"
- Though the process, determined that "Grid Modernization" better reflected the topic at hand (smart grid was seen as too synonymous with smart meters)
- Through three separate collaborative meetings, developed a list of 30 Principles on Grid Modernization

Principles of Grid Modernization

- Non-binding
- Offers a guide map for regulators, advocates and industry
- A list of things to consider, to keep at the forefront as grid modernization is addressed before your regulatory commission
- Broken into 5 topical areas

1. Consideration of Costs, Benefits and Risks

(1) The goals of grid modernization investments and technologies include:

- Greater system reliability;
- Better outage management;
- The opportunity for consumers to monitor and use energy more efficiently; and
- Maintained and enhanced access to affordable utility service.

(2) Grid modernization investments must be cost-effective, and costs and benefits must be evaluated over the same time frame

(3) When considering significant grid modernization projects, utilities should include a thorough analysis that identifies and articulates the broadest range of costs and benefits to the utilities and consumers in a consistent, transparent manner and that quantifies and verifies such costs and benefits, to the extent reasonably practicable (acknowledging various market structures)

(4) Significant grid modernization projects must be thoroughly analyzed through a process that affords due process (such as an evidentiary proceeding or other similar process) to all stakeholders

1. Consideration of Costs, Benefits and Risks

(5) Grid modernization has the potential to provide new opportunities for innovative technologies and other direct and indirect benefits to consumers. The following list is indicative of the types of benefits that may accrue, some of which depend on customer participation.

Such benefits may include, but are not limited to:

- Predictive maintenance;
- Distribution system management;
- Increased operational efficiencies such as better asset utilization;
- Reduced line losses;
- Reduced transmission congestion;
- Facilitation of the delivery and measurement and verification of demand response and energy efficiency;
- Deferral of capital investments;
- Increased productivity;
- Improved level of service with fewer inconveniences (fewer outage calls) and reduced economic losses caused by outages and poor power quality;
- Improved environmental conditions and economic growth;
- Increased capability, opportunity, and motivation to better manage energy budgets and consumption, in part through consumer-facing applications (e.g., home energy management devices, smart appliances);
- Distributed technology integration, including renewable energy;
- Improved outage prevention, detection and restoration; and
- Facilitation of electric vehicles into the electric grid.

1. Consideration of Costs, Benefits and Risk

Likewise, the costs and risks associated with grid modernization should be considered. Depending on the particular grid modernization project and its underlying circumstances, such costs and risks may include, but are not limited to:

- Cyber attacks and vulnerability of the grid;
- Obsolescence and stranded costs;
- Privacy breaches;
- Customer costs of participation and acceptance;
- Negative bill impacts;
- Regulatory consumer protection policies (e.g., disconnection rules for non-payment, including late and partial payments) not keeping up with new technology capabilities and new service offerings;
- Unforeseen future costs;
- Unpredictable and unstable prices resulting from variable pricing programs; and
- Customers making inadequately informed decisions regarding rate plans.

2. Consumer Protections

(6) Systems should be developed to provide timely delivery of energy usage and price data, in order to enable the active participation by consumers in better managing their energy consumption and costs.

(7) Programs should be designed so that consumers, including low-income or at-risk consumers, may respond to, and benefit from, variable pricing associated with smart meters.

(8) If low-income or at-risk consumers participate in new variable rate and service programs, appropriate safeguards should be considered to address the specific issues they confront.

(9) Grid modernization investments must not diminish consumer protections, especially related to the implementation of remote disconnection. Billing, dispute resolution policies and pre-paid services should be reviewed to ensure that consumer protections are retained or enhanced as technology evolves.

3. Privacy and Security

(10) Protecting individual consumer information (e.g., customer name, address, account number, energy usage, etc.) from unauthorized disclosure is essential to successful grid modernization.

(11) Consumers must have timely access to their own energy usage data.

(12) Utilities and utility contractors must continue to protect consumer electricity usage data from unauthorized access. Utilities and utility contractors must have affirmative consent of consumers prior to disclosure of a consumer's personally identifiable energy usage data to any third party.

3. Privacy and Security

(13) Electric utilities must continue to have access to and the ability to use customer-specific energy usage data (CEUD), including operational data, to effectively render regulated services (e.g., to maintain safety and reliability, to properly and timely bill customers). Utilities must handle CEUD in a manner that protects the information and the privacy of the consumer. Unless other uses are affirmatively authorized by a state or federal regulatory authority or affirmatively authorized by the consumer, utilities must limit their use of CEUD to that necessary for the provision of regulated services.

(14) A consumer must affirmatively authorize disclosure by the utility of his or her energy usage data to a third party. Such third party must handle this data in a manner that protects the information and the privacy of the consumer, as well as limits the use of such data to the specific purpose for which it was authorized. Such third party must also provide a clear and conspicuous disclosure as part of the authorization process.

(15) Any authorized third party utilizing consumer energy usage data must fully disclose to the authorizing consumer how that information will be used.

3. Privacy and Security

(16) Utilities and commissions and other government agencies should review best practices in other data-intensive industries (e.g., telecommunication, financial and healthcare organizations), and re-examine, in the context of grid modernization, government certification standards, codes of conduct, and consumer safeguards.

(17) States should consider whether requirements are necessary to protect consumer energy usage data transferred to a third party directly by the consumer.

(18) Cyber security is a key component of digital communications. Utilities and commissions should continue to address cyber security prior to implementation of grid modernization and on an ongoing basis.

4. Consumer Education and Communication

(19) All communications to consumers should be accurate and complete with respect to the benefits, costs and risks of grid modernization, with representative examples encouraged where available.

(20) All stakeholders have a continued interest in successful communication and should do the best job possible of listening to and communicating with each other and consumers about grid modernization and how it will impact consumers' lives, including consumer protection information. State commissions, consumer advocates, and utilities should initiate this dialogue.

(21) An active and continuing effort is needed to collect more information and research, and observe and report results, regarding:

- Evolving motivations of different consumer segments;
- Consumer expectations of their energy providers;
- Consumer expectations and understanding of grid modernization;
- Consumer response to dynamic pricing and grid modernization pilots, projects and programs;
- Consumer bill impacts; and
- Best scientific evidence available to address consumer concerns about radio frequency emissions associated with wireless smart meter systems.

4. Consumer Education and Communication

(22) Consumer education and communication regarding grid modernization should be a long-term endeavor, beginning as soon as reasonably practicable, ideally in the design phase, and continuing through project deployment and related program implementation (e.g., smart meter installations, cost recovery, alternative rate design, program goals and results, etc.). The education and communication should include evolving communication channels.

(23) The appropriate stakeholders must be mindful of, and make all reasonable efforts to inform consumers of, the overall nature, process, costs and timing of grid modernization deployment.

(24) Consumer education and communication need to explain how the consumer energy management experience will change through grid modernization and its components (e.g., alternative rate design that will allow active management of energy consumption).

5. Federal-State Relations

(25) States must retain full regulatory authority over retail utility pricing and customer service matters.

(26) In determining jurisdictional issues, each level of government should focus on its core competencies. Federal initiatives should be informed by and should not preempt state regulatory processes.

(27) Collaboration among the states and the federal government, each operating within their respective jurisdictions, as well as consumer advocates, industry, and other stakeholders, can be beneficial in grid modernization development.

5. Federal-State Relations

(28) If any federal standards on privacy and data security pertaining to grid modernization are necessary, they should allow states the maximum flexibility to provide additional or alternative consumer protections and enforcement powers to ensure compliance.

(29) Grid modernization interoperability standards should facilitate the development of new consumer-facing technologies and applications, while mitigating the risk of premature obsolescence.

(30) Grid modernization interoperability standards should provide utilities the flexibility to implement the best available technology to provide the level of reliability and customer satisfaction expected by their customers, while maintaining reasonable rates for all customers.

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