

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Smart Grid Policy

)

Docket No. PL09-4-000

**COMMENTS OF
THE MICHIGAN PUBLIC SERVICE COMMISSION
ON PROPOSED POLICY STATEMENT AND ACTION PLAN**

Pursuant to the March 19, 2009 Proposed Policy Statement and Action Plan issued by the Federal Energy Regulatory Commission (“Commission”),¹ as published in the Federal Register on March 26, 2009,² the Michigan Public Service Commission (“MPSC”) hereby provides its comments on the Commission’s Proposed Policy.

I. BACKGROUND

In the Proposed Policy, the Commission identifies certain policies and priorities pertaining to the development of the so-called “Smart Grid.” Although the term “Smart Grid” can refer to any number of envisioned advancements in the operation of electric systems, the Commission aptly summarizes the nub of the concept when it explains that “Smart Grid advancements will apply digital technologies to the grid, and enable real-time coordination of information from generation supply resources, demand resources, and distributed energy resources.”³

As noted in the Proposed Policy, one of the key concepts in the development of the Smart Grid is “interoperability,” which the Commission observes may be described as

¹ *Smart Grid Policy*, 126 FERC ¶ 61,253 (2009) (“Proposed Policy”).

² 74 Fed. Reg. 13,152 (March 26, 2009).

³ Proposed Policy at P 1 (footnotes omitted).

“the ability of a system or a product to work with other systems or products without special effort on the part of the customer.”⁴

Section 1305 of the Energy Independence and Security Act of 2007 (“EISA”) requires the Commission, following a collaborative process coordinated by the National Institute of Standards and Technology (“NIST”), to promulgate rules adopting standards and protocols needed “to insure smart-grid functionality and interoperability in interstate transmission of electric power, and regional and wholesale electricity markets.”⁵ The Proposed Policy explains in this regard that the purpose of the policy statement the Commission adopts “will be to prioritize the development of key interoperability standards, provide guidance to the electric industry regarding the need for full cybersecurity for Smart Grid projects, and provide an interim rate policy under which jurisdictional public utilities may seek to recover the costs of Smart Grid deployments before relevant standards are adopted through a Commission rulemaking.”⁶

II. COMMENTS

A. **The Commission Should Not Be Overly Prescriptive Regarding Smart Grid Standards While The NIST Collaborative Process Is Ongoing**

The EISA provides that interoperability standards for the Smart Grid are to be developed through a collaborative process coordinated by the NIST.⁷ The Director of the NIST has “primary responsibility to coordinate the development of a framework that includes protocols and model standards for information management to achieve

⁴ Proposed Policy at P 7 (quoting Testimony of Patrick D. Gallagher, Ph.D., Deputy Director, National Institute of Standards and Technology, before the Committee on Energy and Natural Resources, United States Senate (March 3, 2009)).

⁵ EISA § 1305(d).

⁶ Proposed Policy at P 2.

⁷ See EISA § 1305(a), (d); see also Proposed Policy at PP 7-10.

interoperability of smart grid devices and systems.”⁸ The NIST is to solicit “input and cooperation” from stakeholders, including the Commission, state agencies, and private entities, with the purpose of developing “consensus” on standards and protocols.⁹ It is only once “the [NIST’s] work has led to sufficient consensus in the Commission’s judgment”¹⁰ that the Commission is to institute a rulemaking proceeding to adopt these standards and protocols “to insure smart-grid functionality and interoperability.”¹¹ While acknowledging the role of the NIST collaborative process, the Commission indicates that it intends to “take an active role in helping to ensure that the participants in the [NIST’s] process effectively prioritize and sequence future standards development efforts.”¹²

The MPSC generally supports the Commission’s efforts to identify policies and priorities relating to the development of Smart Grid functionality and interoperability. The EISA specifically provides that NIST is to “seek input and cooperation” from the Commission in the collaborative process to develop standards and protocols for Smart Grid interoperability. Further, the Commission has the ultimate responsibility to issue rules implementing the Smart Grid interoperability standards and protocols within its jurisdiction.¹³ Development of Commission policies on Smart Grid issues will also help inform the dialogue between the Commission and the states on these issues, including the FERC/NARUC Smart Grid Collaborative.¹⁴ Accordingly, the MPSC believes it is useful

⁸ EISA § 1305(a).

⁹ EISA § 1305(a), (d).

¹⁰ EISA § 1305(d).

¹¹ *Id.*

¹² Proposed Policy at P 10.

¹³ EISA § 1305(d).

¹⁴ MPSC Chairman Orjiakor Isiogu is a member of the Collaborative.

for the Commission to articulate its policies, and suggest priorities, on issues that need to be addressed in the standards development process under EISA section 1305.

In articulating its “policies and near-term priorities”¹⁵ in a policy statement however, the Commission should not be overly prescriptive regarding interoperability standards or the process used to develop such standards. The EISA, while requiring Commission input, plainly contemplates that protocols and standards be developed through consensus in a “bottom up” collaborative process that includes the Commission, states, standards development organizations and other private actors. Based on the Proposed Policy, it appears that the Commission generally is seeking to strike an appropriate balance between informing the process and dictating the outcome.

Some of the more mandatory language in the Proposed Policy, however, does cause concern for the MPSC. For instance, the Proposed Policy purports to propose “a targeted acceleration of certain aspects of the interoperability standards process.”¹⁶ Likewise, the Commission explains that the “cross-cutting issues and key functionalities are proposed as the first level of work to be accomplished in the interoperability standards-setting process.”¹⁷ The Commission also indicates that four Smart Grid functionalities identified in the Proposed Policy “should be given priority in the standards development process.”¹⁸ While the MPSC agrees that the cross-cutting issues and key functionalities discussed in the Proposed Policy are important issues related to Smart Grid development, the Commission should not *require* stakeholders to follow any

¹⁵ Proposed Policy at P 1.

¹⁶ *Id.* at P 24.

¹⁷ *Id.* at P 27.

¹⁸ *Id.* at P 34.

particular process in developing appropriate standards. Indeed, it is not clear under what authority the Commission would purport to do so given that the EISA plainly gives the Director of the NIST “primary responsibility” to coordinate the development of a framework for Smart Grid standards and protocols development.¹⁹ The Commission should make clear in any policy statement that it is not mandating the development of any particular standards.²⁰ Thus, the Commission should indicate that any policy statement resulting from the Proposed Policy does not purport to *mandate* any particular standards or protocols, or any specific process to reach consensus on the same. Rather, the Commission should confirm that any policy statement is advisory with respect to the NIST standard development collaborative.

B. The Commission Is Correct That Cybersecurity Should Be A Priority Issue In The Development Of The Smart Grid

Notwithstanding the reservations expressed in the previous section, the MPSC strongly agrees with the Commission that cybersecurity should be prioritized as a matter of overarching concern in the development of Smart Grid standards and protocols. It is no exaggeration to say that virtually every functionality of the Smart Grid as currently envisioned will have to address cybersecurity issues to one degree or another. The importance of cybersecurity to Smart Grid initiatives, as well as the danger that such overarching questions of grid security may not easily lend themselves to a purely consensual development approach, justifies a more prescriptive approach with respect to cybersecurity. Given the Commission’s role in supervising reliability of the bulk power

¹⁹ EISA § 1305(a).

²⁰ *See* Proposed Policy at P 33.

system, including cybersecurity, under section 215 of the Federal Power Act,²¹ it is helpful for the Commission to provide specific guidance concerning the interplay between the development of Smart Grid protocols and standards and the preservation of cybersecurity on the bulk power system. The MPSC agrees with the Commission that Smart Grid applications must comply with reliability standards, including the Critical Infrastructure Protection Reliability Standards, during and after installation of such Smart Grid technologies.²² Further, the Commission is correct to identify up-front the reliability and security considerations that Smart Grid technologies must address.²³

C. The Commission Should Not Dictate Smart Grid Requirements In Areas Regulated By The States

If the Smart Grid is to achieve its full potential, it will require the efforts of both state and federal regulators, as new Smart Grid functionalities will impact electric transmission and wholesale sales under FERC jurisdiction, as well as distribution facilities and retail sales regulated by the states. The collaborative process established under section 1305 of the EISA, as well as the FERC/NARUC Smart Grid Collaborative present opportunities for federal-state cooperation on Smart Grid issues.

In articulating policies and priorities for Smart Grid development, the Commission should respect the traditional (statutory) distinctions between state and federal jurisdiction over electricity. Section 201 of the FPA provides the Commission

²¹ 16 U.S.C. § 824o; *see also, e.g., Mandatory Reliability Standards of Critical Infrastructure Protection*, Order No. 706, 122 FERC ¶ 61,040 (2008), *order on reh'g and clarification*, Order No. 706-A, 123 FERC ¶ 61,174 (2008), *order on clarification*, 126 FERC ¶ 61,229 (2009).

²² Proposed Policy at P 29.

²³ *See id.* at P 30 (identifying five security considerations that Smart Grid technologies must address).

with jurisdiction over wholesale sales of electricity and transmission of electricity in interstate commerce.²⁴ The Commission’s jurisdiction does not extend to retail sales or facilities for the local distribution electricity.²⁵ Section 1305 of the EISA preserves these jurisdictional delineations by limiting the Commission’s Smart Grid functionality and interoperability rulemaking authority to “interstate transmission of electric power and regional and wholesale electricity markets.”²⁶ Implementing Smart Grid functionality and interoperability at the distribution level, or in retail sales, is left to the states.

Certain aspects of the Proposed Policy suggest, however, that the Commission may intend to extend its reach beyond its traditional jurisdictional purview. For example, while acknowledging that “[s]pecifications for customer meters are within the jurisdiction of the States,”²⁷ the Commission suggests that “communication and coordination across interfaces between the utility and its customers can have a significant impact on the bulk power system.”²⁸ The Commission goes on to identify “an appropriate starting point” for meter communication standards while soliciting comments from the states as to “the optimal approach to develop standards in this area.”²⁹ The MPSC is concerned by the Commission’s suggestion that it may have some authority over meter specifications because communications between a utility and its retail customers “can have a significant impact on the bulk power system.”³⁰ The MPSC is likewise concerned by the

²⁴ 16 U.S.C. § 824.

²⁵ *See id.*

²⁶ EISA § 1305(d).

²⁷ Proposed Policy at P 39.

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

Commission's suggestion that the potential reliability impacts on the bulk power system from plug-in hybrid electric vehicles (PHEVs) affords the Commission some level of authority over the facilities and operations of distribution facilities.³¹ If the potential impact of a state jurisdictional facility or policy on the transmission system was enough to confer jurisdiction on the Commission, the states' jurisdictional arena would be quickly compromised.

In facilitating the development of a Smart Grid, the Commission should refrain from adopting policies or rules that intrude into areas that have traditionally been regulated by the states. For instance, facilitating demand response is clearly a goal of the Smart Grid, and this is an area over which the states have traditionally exercised jurisdiction. Even assuming, *arguendo*, that the existing statutory framework could afford the Commission some jurisdiction over retail demand response programs, as Chairman Wellinghoff has recognized, successful implementation of demand response is most likely to be achieved through the Commission and the states working together collaboratively.³²

D. The Commission Should Narrowly Apply Any Interim Rate Policy For Smart Grid Investments

In the Proposed Policy, the Commission suggests an "interim" rate policy for recovery of certain Smart Grid-related costs.³³ The rate policy will be interim in nature because it will apply prior to the completion of interoperability standards under section

³¹ *See id.* at PP 41-42.

³² *See* Jon Wellinghoff and David L. Morenoff, *Recognizing the Importance of Demand Response: the Second Half of the Wholesale Market Equation*, 28 *Energy L.J.* 389, 415-419 (2007).

³³ Proposed Policy at PP 45-53.

1305 of EISA. Specifically, the Commission proposes to allow rate filings, including single issue rate filings, seeking recovery of Smart Grid deployments involving jurisdictional facilities if certain showings are made.³⁴ The Commission will also allow recovery of “stranded” Smart Grid investment, *i.e.*, investment in Smart Grid technology that must be replaced once final interoperability standards are approved.³⁵ Relatedly, the Commission will consider recovery of the unamortized costs of legacy systems rendered obsolete by deployment of Smart Grid equipment.³⁶ Finally, the Commission will “entertain requests for rate treatments such as accelerated depreciation and abandonment authority . . . tied to Smart Grid deployments.”³⁷

While the MPSC appreciates the Commission’s sense of urgency in implementing Smart Grid technologies, the MPSC is concerned that the interim rate policy described in the Proposed Policy, if not applied carefully and conservatively, may result in inefficient spending that imposes costs on customers without any real progress made toward true Smart Grid functionality. The MPSC supports the comments that Commissioner Frederick F. Butler made on behalf of the National Association of Regulatory Commissioners (NARUC) in testimony before the U.S. Senate. In pertinent part, Commissioner Butler said: “The benefits of the Smart Grid are obvious, and we must be

³⁴ *Id.* at P 46.

³⁵ *Id.* at P 49.

³⁶ *Id.* at P 51.

³⁷ *Id.* at P 52. The Commission would consider permitting recovery of abandoned “Smart Grid investments that, despite reasonable efforts, could not be made upgradeable and must ultimately be replaced if found to conflict with the final standards to be approved under [NIST’s] standards development process.” *Id.*

sure that we move deliberately and in stages so that the costs of rolling out the necessary infrastructure are borne by those who will benefit.”³⁸

The MPSC agrees with the logic of allowing cost recovery for true pilot programs or demonstration projects, as such programs are a focused and necessary part of implementing Smart Grid technology on a wide scale.³⁹

The MPSC is concerned, however, with a general interim rate policy to fund investment in Smart Grid architecture that, by definition, may not meet industry interoperability standards once such standards are adopted. Of particular concern to the MPSC is the Commission’s indication that it will allow recovery of stranded investment and/or abandoned investment for Smart Grid facilities that ultimately prove to be incompatible with the interoperability standards once finalized.⁴⁰ If not carefully applied, such a policy could, in the long run, actually be counterproductive to Smart Grid development. In particular, controversy and opposition to Smart Grid development may arise if a utility’s customers are asked, in effect, to pay for Smart Grid investment twice, *i.e.*, once for upgrades that prove useless when the final interoperability standards are

³⁸ Testimony of the Honorable Frederick F. Butler, Commissioner, New Jersey Board of Public Utilities on behalf of the National Association of Regulatory Utility Commissioners before the United States Senate, Committee on Energy and Natural Resources, “Smart Grid” at 3 (March 3, 2009). A copy of Commissioner Butler’s testimony is attached to these comments as Attachment A.

³⁹ See Proposed Policy at PP 46-47.

⁴⁰ See Proposed Policy at 49, 52. The Commission should clarify the difference, if any, between the right to seek recovery of “stranded Smart Grid investment” as described in paragraph 49 of the Proposed Policy, and the right to seek recovery of “abandoned” Smart Grid investments as discussed in paragraph 52. In both cases, the Commission indicates that utilities can seek to recover Smart Grid investment costs that would otherwise be unrecoverable because the putative Smart Grid facilities, notwithstanding good faith efforts by the utility, are not upgradeable to the subsequently-finalized interoperability protocols.

adopted, and again for the replacement equipment that complies with the interoperability standards. Such controversy could be counter-productive in getting effective Smart Grid technology in place. The MPSC, like most state commissions, is sensitive to the potential to overburden retail ratepayers who – whether residential or business – are already experiencing significant cost increases. Therefore, we urge the Commission to exercise great care to avoid overly generous cost recovery policies for abandonment and other scenarios where, as Commissioner Butler suggested, the cart may have been placed before the horse.⁴¹

If utilities make significant investment in Smart Grid technology prior to the finalization of interoperability standards, such investment could actually interfere with the development of optimal interoperability standards because utilities making such investments would have a vested interest in promoting standards that could accommodate their already-implemented systems, even if their systems are sub-optimal from an interoperability standpoint.

Thus, if the Commission is going to proceed with its interim rate policy, it should, at a minimum, specify that the criteria described in the Proposed Policy are going to be strictly applied. Moreover, the Commission should make clear that, analogous to the Commission's policies under Order No. 679, the interim rate policy will not apply to routine investments in bulk power system facilities of the type that might have been made even in the absence of industry efforts to implement Smart Grid technologies, or that rely upon well-established technology. The Commission should limit the availability of the interim rate policy to investments designed to create significant new Smart Grid

⁴¹ See Attachment A, Commissioner Butler Testimony at 2-3.

functionality or to serve as the basis for upgrading or expanding such functionality in the future.

III. CONCLUSION

The MPSC generally supports the Commission's efforts to articulate policies and priorities to assist the development of the Smart Grid in the United States, particularly the Commission's emphasis on cybersecurity. However, consistent with the EISA, the Commission should not be overly prescriptive regarding Smart Grid interoperability standards or the process used to develop such standards.

The Commission should continue to work with the states through the NIST process and the FERC/NARUC Smart Grid Collaborative to address the interplay between state and federal jurisdiction in Smart Grid implementation rather than adopting standards or policies that impinge on areas of state regulation.

Finally, any Smart Grid interim rate policy should be applied narrowly in order to provide some rate certainty for investments that legitimately promote Smart Grid implementation while discouraging inefficient and potentially counterproductive investments that do not advance the ball in achieving Smart Grid functionality.

Respectfully submitted,

**THE MICHIGAN PUBLIC SERVICE
COMMISSION**

MICHAEL A. COX
Attorney General

Steven D. Hughey (P32203)
Patricia S. Barone (P29560)
Assistant Attorneys General
Public Service Division
6545 Mercantile Way, Suite 15
Lansing, MI 48911

and

/s/ John E. McCaffrey
John E. McCaffrey
Special Assistant Attorney General
Stinson Morrison Hecker LLP
1150 18th Street, N.W., Suite 800
Washington, DC 20036-3816

Dated: May 11, 2009

ATTACHMENT A

**BEFORE THE
UNITED STATES SENATE**

COMMITTEE ON ENERGY AND NATURAL RESOURCES

**TESTIMONY OF THE HONORABLE FREDERICK F. BUTLER
COMMISSIONER, NEW JERSEY BOARD OF PUBLIC UTILITIES**

**ON BEHALF OF THE
NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS**

ON

“Smart Grid”

March 3, 2009



**National Association of
Regulatory Utility Commissioners
1101 Vermont Ave, N.W., Suite 200
Washington, D.C. 20005
Telephone (202) 898-2200, Facsimile (202) 898-2213
Internet Home Page <http://www.naruc.org>**

Good morning Chairman Bingaman, Ranking Member Murkowski, and Members of the Committee:

My name is Frederick F. Butler, and I am a member of the New Jersey Board of Public Utilities (NJBPU). I also serve as President of the National Association of Regulatory Utility Commissioners (NARUC), on whose behalf I am testifying here today. I am honored to have the opportunity to appear before you this morning and offer a State perspective on “Smart Grid”.

NARUC is a quasi-governmental, non-profit organization founded in 1889. Our membership includes the State public utility commissions serving all States and territories. NARUC’s mission is to serve the public interest by improving the quality and effectiveness of public utility regulation. Our members regulate the retail rates and services of electric, gas, water, and telephone utilities. We are obligated under the laws of our respective States to ensure the establishment and maintenance of such utility services as may be required by the public convenience and necessity and to ensure that such services are provided under rates and subject to terms and conditions of service that are just, reasonable, and non-discriminatory.

There’s a worn-out cliché that goes something like this: Don’t put the cart before the horse. In an industry as old as the electric utility sector, this saying aptly describes the situation we face in dealing with the modern Smart Grid and future demand growth.

As a State regulator in New Jersey and co-chair of a national board analyzing Smart Grid issues, I am absolutely convinced of the Smart Grid's potential to revolutionize how energy is delivered and consumed. I know the Smart Grid can change how utilities oversee their networks and improve reliability. I know that, in the end, consumers could have greater control over their usage and have the potential to lower their bills. I also know, however, that if we do not do this correctly, if we move too quickly and promise too much we can endanger our coming close to meeting any of those lofty aspirations.

That is why it is important to remember that old cliché and not put the cart before the horse. The benefits of the Smart Grid are obvious, and we must be sure that we move deliberately and in stages so that the costs of rolling out the necessary infrastructure are borne by those who will benefit. If we expect the horse—i.e. the consumers—to push the cart before it is ready, we may never get the Smart Grid off the ground. This means that we should not focus immediately on the end user and demand response; rather, we must start with the backbone—the transmission and distribution systems—while proceeding carefully to go inside consumers' homes.

Achieving the ultimate goal of reliable service at a fair and reasonable price is becoming harder and harder in this era of rising costs. There is a high probability that within the next three to ten years all electricity consumers will be facing higher costs because of rising fuel and commodity prices, as well as the initial sticker shock of federal and State initiatives to increase renewable generation and the anticipated costs associated with climate change legislation. These costs are and will continue to hit energy

companies hard, and State regulators are faced with having to approve rate increases that a growing number of consumers may not be able to afford. Should the potentially substantial price tag of Smart Grid be suddenly thrust upon them, notwithstanding the federal funding increase in the stimulus law, ratepayers will not be happy.

The utility industry is facing tremendous challenges, and we all need to welcome new technologies that could help this country become more efficient while bolstering the existing transmission grid. The Smart Grid has this potential, but only if embraced by utilities and, most importantly, consumers. Without getting the consumers on board, the Smart Grid may just be another good intention.

Before going too much further, it must be stated that our nation's energy woes will not be slain by a single silver bullet, but rather by what has been referred to as silver buckshot, a whole array of various and new revolutionary energy programs. This includes building some new transmission, encouraging renewable energy resources, promoting energy efficiency, resolving the nuclear-waste storage problem, and developing new technologies. The easiest and cheapest of this list is, of course, energy efficiency, but we must consider the role new technologies can play in helping us fix our current situation.

Here is where the Smart Grid comes into play. With the right investment and incentives, modernizing the nation's transmission system could revolutionize how and when we use electricity. If done correctly, utilities can streamline their operations and

have more control over their networks. The more efficient we get, the less electricity will be lost on the transmission grid. Consumers, meanwhile, can reduce their usage across the board, and especially during peak times. This can actually lead to reduced electricity bills. From an operational, business, environmental and economic standpoint, the Smart Grid, if implemented properly, can be a major win-win.

But we do need to be careful. Right now, we are selling the Smart Grid as a means of empowering consumers to lower their usage and, correspondingly, their energy bills. While this may ultimately be the case, we must learn our lesson from the restructuring experience before heading down this path. The promise of restructuring was that consumers would save money by shopping for power. Nearly half the States introduced some kind of restructuring legislation in the mid- and late-1990s. Congress also considered mandating a national restructuring scheme during the late 1980s and early 1990s. In many States, rates were cut and/or frozen for a set number of years, so at the outset, restructuring seemed to be a success.

The 2000-2001 Western Energy Crisis prompted many to rethink this approach. Instead of lower prices, consumers saw their rates skyrocket as utilities were forced to buy electricity through the volatile spot-market costs which, we later found out, were being manipulated. Along the East Coast, starting in 2006, when rate caps expired in Maryland, ratepayers and politicians led a mutiny that nearly resulted in the demise of the State's Public Service Commission. Cooler heads prevailed and the massive rate increases were phased in over time, but many consumers still feel burned. Delaware and

Illinois have had similar experiences. We have not had these kinds of problems in New Jersey, but the sting in many States is being felt across the country.

The problem here was not restructuring per se, but it was the way it was sold to consumers. Instead of determining the best way to move forward deliberately, we jumped right in, with the promise of lower rates to follow. Because of this approach, and because of the results, the concept of restructuring has taken a significant hit. Indeed, we put the cart before the horse.

We cannot make this same mistake with the Smart Grid if we want it to succeed. There is no doubt that the Smart Grid will bring consumers significant benefits. However, if we want to make the biggest impact, we should consider a different approach and concentrate first on the operational side while we educate consumers and deploy smart meters very strategically. Many utilities, engineers, and vendors have extolled the virtues of how an updated, modernized transmission system will give grid operators a much better view of their transmission and distribution network. New technologies can be installed on distribution poles and on the lines themselves to give advanced warning of a power surge. A modernized grid can help utilities lower costs by reducing the need for sending out trucks to read meters or restore power. Business operations can be streamlined, reliability can be improved, and money—real money—can be saved.

For instance, phasor measurement and backscatter sensors on the transmission grid, along with video sagometers and wireless mesh sensors, can use radio-frequency

identification (RFID) technology to give utilities real-time information on the status of specific lines. These sensors can detect problems on the grid as they develop and that are relayed back to the utility for resolution before they escalate into a massive blackout. Instead of relying on costly and time-consuming manual visits from work crews, utilities will have up-to-date information on their system and can act accordingly. These reasons alone will make the Smart Grid a safe and worthwhile investment for utilities, whether or not end-users choose to get on board later.

From my perspective as a State regulator, it seems to make the most sense that if we're going to begin investing in a Smart Grid, we should start here. If we start with the backbone – if we update and improve the delivery system first – we will see the utility company side benefits of the Smart Grid. The question of who pays is important—and with consumers already challenged because of rising rates and the economic downturn, we must be careful before putting more on their plate. In this case, starting with the backbone means the initial investments would be paid for by the utilities themselves, as they will be the initial beneficiaries, and not immediately by ratepayers. While we all would like to see end users enjoy the benefits of Advanced Metering Infrastructure, the Smart Grid can still make an immediate and long-lasting improvement for the industry by making the delivery system more efficient. This alone will result in considerable savings and fewer outages. Meanwhile, advanced meters and the applications they enable can at the same time be deployed strategically in pilot and demonstration projects thus demonstrating the benefits to end-use customers. Moreover, these backbone investments

are necessary at some point during the transition to the Smart Grid. So let's ready the cart to be pulled before asking the horse—or consumers—to pull it.

The second part of Smart Grid should be developed and implemented in an effort coordinated by State and local officials. In my experience as a Commissioner I have found that a key component for an initiative such as Smart Grid is public outreach. We should use some federal resources to explain to the consumers that a new Smart Grid program is worthwhile. Most State commissioners understand the benefits of Advanced Metering Infrastructure and time-of-use rates, but most consumers do not. Because these new programs will need new rate structures that will be disruptive to habits of paying energy that have been in place for over 120 years, we must proceed carefully to avoid public backlash. Time-of-use rates are being welcomed by some sectors of society and feared by others. States must be sure that consumers will embrace the technology and tolerate the initial investment. So far, this is only occurring in a few States. In California, for example, the Public Utilities Commission is committed to rolling out the Smart Grid to their consumers. The State has taken a number of steps laying out the initial foundation, including a decision in September 2008 approving a smart-metering program for Southern California Edison, one of the State's three investor-owned utilities.

Still, my colleague on the California PUC, Commissioner Dian Grueneich, said that despite the commission's conclusion on the benefits, key California consumer groups remain unconvinced that the Smart Grid will deliver. The advanced metering infrastructure deployment for Southern California Edison will cost about \$1.63 billion,

with estimated benefits ranging from \$9 million and \$304 million for consumers. Speaking in September 2008 at the Grid Week forum in Washington, D.C., Commissioner Grueneich said the PUC moved forward despite the strong opposition from some consumers. “Very significant costs have been authorized and put into rates,” she said. “Our consumer groups are not comfortable” with this.

The concern that many of my colleagues are trying to resolve is that consumers are convinced that the Smart Grid will only raise their rates with no discernable benefits. In a high-priced environment, some or perhaps most consumers see advanced metering rollouts as just one more headache and budget buster and are particularly scared that utilities and vendors will keep raising rates as the technology changes.

California will be launching a major education, marketing, and outreach campaign next year. This will need as much support as possible from all parties so the program can succeed and perhaps reduce the sting on ratepayers. Once they see the benefits, they should also see how they can turn this into savings.

As this experience demonstrates, the way a Smart-Grid program is structured and rolled out is absolutely key to its success, and regulators and industry must be flexible to ensure that consumers will not feel inundated or overwhelmed. Depending on how a Smart-Grid program is structured and rolled out will be the key to its success, and Congress, regulators, and industry must be flexible to ensure that consumers will not feel inundated or overwhelmed. As a State regulator, here’s how I think we should proceed.

A good place to look is at the work we're doing with the NARUC-Federal Energy Regulatory Commission (FERC) Smart Grid Collaborative, which I co-chair with FERC Commissioner Suedeen Kelly. As this is an issue that cuts across both wholesale and retail energy markets, the dialogues we are initiating through this process will help us all as we move forward. The Collaborative brings together a diverse group of State and federal regulators, consumer groups, and industry experts and allows us to talk in a public setting about these issues.

The Collaborative has met three times since its February 2008 inception, most recently at the NARUC Winter Committee Meetings last month. We have discussed issues such as cost allocation, specific technologies, interoperability, and pilot programs with consumers and industry executives who are promoting Smart-grid technologies.

In my role as co-chair of this Collaborative, I have spent a considerable amount of time getting up to speed on the different technologies and pilot programs throughout the country. I am, as is the entire Smart-Grid industry, very interested in the pilot program in Boulder, Colorado, which is aiming to become the nation's first "Smart Grid City." I have discussed the many different pilots with my regulatory colleagues and am convinced that we must take a deliberate approach to introducing these new technologies to end-use consumers. As described above, consumers have yet to "buy into" the concept of the Smart Grid, and when they see any associated rate increases, they are more than likely not going to be pleased. Smart meters are expensive—right now we're talking about

approximately \$150 - \$200 per meter—so we must be very careful in forcing anyone to upgrade if they are not willing. Pilot programs must be carefully structured in such a way that creates a “buzz” and excitement, not a ratepayer revolt.

In addition, there should be large-scale “demonstration projects” that cover a larger geographic area. We are all watching the Boulder, Colorado effort and that project’s success is instrumental to the future of the Smart Grid. These kinds of projects must cover a significant demographic area that reflects a microcosm of the country at large, including different incomes and education levels. While the pilot programs are useful, these larger projects will give us a glimpse as to how a larger pool of consumers will react to the Smart Grid. The project doesn’t have to be huge, but it must be an accurate representation of the society.

This approach lets consumers take part by building interest and selling the product amongst themselves, rather than having Congress, utilities, or regulators do it for them. The consumers who want the meters will get the meters, and through word-of-mouth, others will find out how valuable this new system can be, and will be more willing to endure a slight rate increase to pay for it. What concerns me is that under some proposals, millions of people will get these smart meters whether they want them or not. They will be getting a rate increase and new gadgets that they do not know how to use installed in their homes. I am not sure if this will breed anything but hostility among a rate class that is already facing challenging economic times.

Smart Grid can be successful provided we have federal and State governments working in concert with one another as partners; not working in contrast to one another as adversaries. The challenge before us is great, the technology and potential benefits exciting. The federal government has resources that the States do not; the States have expertise in the development and implementation of programs that the federal government does not have. Therefore, this challenge calls for a true partnership between the States and FERC that we are already developing through the NARUC-FERC Smart Grid Collaborative.

We have to remember that the Smart Grid will only achieve its vast potential if consumers embrace it. While we can certainly see major improvements in efficiencies and reliability by upgrading the transmission and distribution backbone, we will not change consumers' habits and consumption if we are unable to convince them of its promise. I respectfully request that this Committee and this Senate recognize and respect our unique roles so that we can work towards a truly 21st Century electricity delivery system.