

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter(s) of	)	
	)	
<i>International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act</i>	)	<b>GN Docket No. 09-47</b>
	)	
<i>A National Broadband Plan for Our Future</i>	)	<b>GN Docket No. 09-51</b>
	)	
<i>Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act.</i>	)	<b>GN Docket No. 09-137</b>
	)	
	)	<b>[DA 09-2017]</b>

**NPB PUBLIC NOTICE # 2 - “IMPLEMENTATION OF SMART GRID TECHNOLOGY”  
INITIAL COMMENTS OF THE  
NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS**

In response to the Federal Communications Commission’s (“FCC” or “Commission”) September 4, 2009 Notice,<sup>1</sup> the National Association of Regulatory Utility Commissioners<sup>2</sup> (“NARUC”) respectfully submits the following brief comments:

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<sup>1</sup> See, *Comment Sought on the Implementation of Smart Grid Technology*, NBP Public Notice #2, DA 09-2017 (rel. Sept. 4, 2009), available at: <[http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DA-09-2017A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-09-2017A1.pdf)>.

<sup>2</sup> Founded in 1889, NARUC’s members include agencies in the fifty States, the District of Columbia, Puerto Rico, and the Virgin Islands charged with regulating the rates and conditions of service of utility intrastate operations. NARUC members ensure that utility services are provided at rates and conditions that are just, and reasonable. Both Congress and federal courts have consistently recognized NARUC as a proper entity to represent the collective interests of State commissions. See, e.g., 47 U.S.C. § 410(c) (1971) (*Congress designates NARUC to nominate members to Federal-State Joint Boards to consider issues of concern to State regulators and the FCC on universal service, separations, and other issues*); See also 47 U.S.C. § 254 (1996) (*describing functions of the Universal Service Joint Board*). See also *NARUC, et al. v. ICC*, 41 F.3d 721 (D.C. Cir 1994) (*where the Court explains “Carriers, to get the cards, applied to [NARUC], an interstate umbrella organization that, as envisioned by Congress, played a role in drafting the regulations the ICC issued to create the “bingo card” system*). See *United States v. Southern Motor Carrier Rate Conference, Inc.*, 467 F. Supp. 471 (N.D. Ga. 1979), *aff’d* 672 F.2d 469 (5th Cir. 1982), *aff’d en banc on reh’g*, 702 F.2d 532 (5th Cir. 1983), *rev’d on other grounds*, 471 U.S. 48 (1985).

In the American Recovery and Reinvestment Act of 2009, Congress directed the FCC to include in the National Broadband Plan recommendations “. . . for the use of broadband infrastructure and services in advancing . . . energy independence and efficiency.”<sup>3</sup> The notice seeks detailed comments on a wide range of topics related to smart grid technologies. In particular, question four raises some key concepts that implicate complex retail rate making decisions by State regulators as well as access to information most believe remains subject to State commission oversight.

The so-called “smart grid” is a new name that combines several older concepts. The intelligent network, smart meters, demand response programs, and energy efficiency have long been part of the policy discussion by State policymakers charged with overseeing retail electricity delivery and consumption. Even DOE’s 2008 primer on Smart grid<sup>4</sup> notes at page 32 that “States such as Texas, California, Ohio, New Jersey, Illinois, New York and others are already actively exploring ways to increase the use of tools and technologies toward the realization of a smarter grid.”<sup>5</sup> Numerous publications document State leadership with pilot programs and full blown deployments of smart grid technology.<sup>6</sup>

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<sup>3</sup> American Recovery & Reinvestment Act of 2009, Pub.L.No. 111-5, §6001(k)(2)(D), 123 Stat. 115 (2009).

<sup>4</sup> The Smart Grid: An Introduction, prepared for the U.S. Department of Energy's Office of Electricity Delivery and Energy Reliability by Litos Strategic Communication (2008), available online at: [http://www.oe.energy.gov/DocumentsandMedia/DOE\\_SG\\_Book\\_Single\\_Pages%281%29.pdf](http://www.oe.energy.gov/DocumentsandMedia/DOE_SG_Book_Single_Pages%281%29.pdf).

<sup>5</sup> Tangentially, the same report notes at page 25 that 30 States have already developed and adopted renewable portfolio standards.

<sup>6</sup> See, Berst, Jesse, *For a Smart Grid, Look to Smart States: The Top 10 “Smartest” States*, Solar Today [Web Exclusive], American Solar Energy Society (April 17, 2009), which is available online at: [http://www.ases.org/index.php?option=com\\_content&view=article&id=602&Itemid=23](http://www.ases.org/index.php?option=com_content&view=article&id=602&Itemid=23) (The story lists, CA, TX, FL, IL, PA, WV, OH, NJ, CT, and CO as the top 10, and MI, NY and HA as “States to Watch”); See also, Ravens, Stuart, *Are Stimulus Funds Working Against Smart Grids?* TMCnet (Sept. 28, 2009), (“[S]ince well before the Obama administration took office, utilities were launching smart grid initiatives, either pilot projects or full-scale rollouts, across the country . . . *[i]n the US, adoption has been led by regulators at a state level or below* . . . Austin

## *Partnership, Not Preemption*

The development of smart grid standards can best be achieved through a partnership among the States, the federal government, and industry. *July 2009 NARUC Resolution on Smart Grid*

It is worth pointing out, as you read the various submissions, that most commercial or company comments will necessarily be driven by the company's bottom line. State regulators, on the other hand, are always looking for effective ways to limit energy costs across the board. If particular technologies provide significant benefits at a reasonable cost, State regulators are unlikely to hinder their deployment in any way. *In short, State regulators, like our federal colleagues at the FCC, are intensely concerned with balancing competing interests to protect both ratepayers and "the public interest."*

In the words of President Obama, this inquiry may implicate some areas where:

" . . . agencies should be mindful that in our Federal system, the citizens of the several States have distinctive circumstances and values, and that in many instances it is appropriate for them to apply to themselves rules and principles that reflect these circumstances and values. As Justice Brandeis explained more than 70 years ago, "[i]t is one of the happy incidents of the federal system that a single courageous state may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country."<sup>7</sup>

Smart grid can be successful provided federal and State governments work in concert with one another as partners. The challenge before us is great, the technology and potential benefits exciting. The federal government has resources the States do not; the States have expertise in the development and implementation of programs the federal government lacks. This technology calls for a true partnership. NARUC is already developing just such a partnership

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Energy in Texas was one of the first to roll out a fully functional smart grid." (emphasis added). Available at <http://smart-grid.tmcnet.com/topics/smart-grid/articles/65315-stimulus-funds-working-against-smart-grids.htm>.

<sup>7</sup> See, May 20, 2009 *Memorandum for the Heads of Executive Departments and Agencies*, at: [http://www.whitehouse.gov/the\\_press\\_office/Presidential-Memorandum-Regarding-Preemption/](http://www.whitehouse.gov/the_press_office/Presidential-Memorandum-Regarding-Preemption/)

with the FCC's sister agency – the Federal Energy Regulatory Commission via the NARUC-FERC Smart Grid Collaborative. 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. NARUC respectfully requests that federal policy makers recognize and respect our unique roles and experiences so that we both can work towards a truly 21st Century electricity delivery system.

### ***Don't Put the Cart before the Horse***

NARUC's current President, the Honorable Frederick F. Butler, a Democratic Commissioner on New Jersey's Board of Public Utilities for close to a decade,<sup>8</sup> has been referenced by *Solar Today*, a publication of the American Solar Energy Society, with respect to his activities on this topic as the "Garden State's guiding light on smart grid", "highly regarded" and "well known as a progressive pragmatist."<sup>9</sup>

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<sup>8</sup> NARUC's President became a commissioner with New Jersey in 1999. He is New Jersey's representative to the Board of the Organization of PJM States. He is former-President of the Mid Atlantic Conference of Regulatory Utility Commissioners and has served as Chairman of NARUC's International Relations Committee, Committee on Water, and Ad Hoc Committee on Climate Change. He also is on the advisory boards for the Michigan State University Institute of Public Utilities, the New Mexico State University Center for Public Utilities, and the University of Florida's Public Utilities Research Center. For more information, go to: <http://www.bpu.state.nj.us/bpu/about/commissioners/butler.html>.

<sup>9</sup> See, Berst, Jesse, *For a Smart Grid, Look to Smart States: The Top 10 "Smartest" States*, Solar Today [Web Exclusive], American Solar Energy Society (April 17, 2009) available online at: [http://www.ases.org/index.php?option=com\\_content&view=article&id=602&Itemid=23](http://www.ases.org/index.php?option=com_content&view=article&id=602&Itemid=23) ("The Garden State's guiding light on smart grid, Commissioner Fred Butler of the New Jersey Public Utilities Commission, is highly regarded and well known as a progressive pragmatist.")

Mr. Butler also co-chairs, with the Federal Energy Regulatory Commission's (FERC) Commissioner Sudeen Kelly, the highly regarded FERC-NARUC Collaborative, convened in February of 2008.<sup>10</sup>

In both testimony before the United States Senate<sup>11</sup> and in the popular press,<sup>12</sup> Mr. Butler has made several key points on smart grid policy. His remarks follow closely the smart grid policies adopted by NARUC in a July 2009 resolution, which is attached as Appendix A to these comments.

In his March 2009 Senate testimony, at 3, President Butler stated:

“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.*” {emphasis added}

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<sup>10</sup> See, *Sixteen State Regulators Join NARUC-FERC Smart Grid Collaborative*, NARUC Press Release (rel. March 31, 2008), available online at <http://www.naruc.org/News/default.cfm?pr=77&pdf=>.

<sup>11</sup> See, *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”*, before the United States Senate Committee on Energy and Natural Resources, (March 3, 2009), available on line at: <http://www.naruc.org/Testimony/09%200227%20NARUC%20Butler%20Smart%20Grid%20Testimony.pdf>.

<sup>12</sup> See, Butler, Fred, *A Call to Order: A Regulatory Perspective on the Smart Grid*, IEEE Power & Energy Magazine (Mar./Apr. 2009), available at: <http://www.ieee.org/organizations/pes/public/2009/mar/pesbusiness.html>.

Indeed, as has been pointed out in one recent NARUC publication, of the available range of smart grid improvements, starting with changes to the backbone is likely the most efficient way to proceed:

End-use applications such as automated demand response, use of on-site storage and generation, and smart charging of plug-in hybrid electric vehicles (PHEVs), are often the first that come to mind when discussing smart grid. Smart meters, price-sensitive “smart” appliances, energy storage, and distributed generation are the components of these applications. While these are potentially important customer-side applications, some of the highest value applications are likely be on the distribution system-side. One of the highest-value early-stage smart grid applications is system visualization, using networked systems to allow system status monitoring to occur. Currently, for example, outage management is often triggered by a call from a customer who has lost power. With system visualization, outage management does not depend on customer outage reporting, and in some cases can report overhead vegetation contact before a tree actually falls on the line. More importantly, once you can see how your system operates, you can better optimize its performance, for example, through transformer and conductor overload detection, volt/var control, phase balancing, abnormal switch identification, and a host of ways to improve peak load management. Distribution automation will allow for more efficient use of the electric distribution system, and may lead to highly resilient systems able to route around trouble spots in emergencies. Finally, on the transmission system side, better visualization of system status allows for improved integration of intermittent resources like wind and solar. *So, while the smart meter may have become the “poster child” for the smart grid, advanced sensors, synchro-phasors, and distribution automation systems are examples of equipment that are likely to be even more important in harnessing the value of smart grid.* {emphasis added}<sup>13</sup>

### ***Local Rates, Local Impact, Local Responsibility***

In the attached NARUC July 2009 resolution, the following three principles, of the 10 adopted, highlight the need to accommodate existing State regulatory infrastructure and local concerns. Specifically, the resolution states that federal policies and standards that guide the deployment of the smart grid should be based on, among others, the following principles:

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<sup>13</sup> Keogh, Miles, *The Smart Grid: FAQ for State Commissions*, NARUC Grants & Research Dept. (May 2009), at 2, [http://www.naruc.org/Publications/NARUC%20Smart%20Grid%20Factsheet%205\\_09.pdf](http://www.naruc.org/Publications/NARUC%20Smart%20Grid%20Factsheet%205_09.pdf).

1. State commissions have jurisdiction over the elements of smart grid improvements that are within their vested authority and [federal authorities] ...should not authorize cost recovery for smart grid investments that are within the State commissions' jurisdiction;
2. There is inherent value within the State regulatory process and the manner in which it balances the needs of the utilities, the grid system, and consumers; and
3. Smart grid policies and standards should be flexible and together with RTO policies and tariffs, should accommodate various State regulatory contexts, retail rate structures, and policy goals.

President Butler Senate testimony discussion of the reasons for investing first in backbone technology before turning to advanced metering infrastructure, incorporates these concepts, and highlights the need for well publicized pilot programs with document benefits, consumer education campaigns, and the critical role the State Commission must play adjusting comprehensive State energy planning, consumer education programs, and rates:

[S]tarting 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 for 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.

## *Conclusion*

NARUC respectfully requests that the Commission carefully consider incorporating these critical considerations, as well as the other concepts in the attached resolution, as it formulates recommendations for the National Broadband plan.

Respectfully Submitted,

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October 2, 2009

*Appendix A – NARUC Resolution Regarding Smart Grid*

**WHEREAS**, The Energy and Independence and Security Act of 2007 (EISA) establishes as policy the demonstration and deployment of a smart grid; *and*

**WHEREAS**, The American Recovery and Reinvestment Act of 2009 provided funds to support these smart grid initiatives; *and*

**WHEREAS**, The Federal Energy Regulatory Commission (FERC) issued a Smart Grid policy statement prioritizing the National Institute of Standards and Technology's (NIST) development of smart grid interoperability standards (as mandated in EISA); FERC encourages the development of interoperability standards consistent with cyber security and reliability standards in four prioritized functionalities (wide-area situational awareness, demand response, electric storage, and electric transportation); FERC's policy statement established an interim rate policy for smart grid investments; and the areas highlighted by FERC's policy statement overlap with State commissions' jurisdiction; *and*

**WHEREAS**, The White House, Department of Commerce, and the Department of Energy have repeatedly stated that the Administration considers the smart grid an essential element of America's job growth, energy independence, and future as a global economic leader, and emphasized the urgency of developing smart grid standards; *and*

**WHEREAS**, The Department of Energy has released funding opportunity announcements for smart grid investment grants and demonstration projects that will spur investment in smart grid, and require applicants to provide at least 50% cost share for any selected project, which cost share might be recovered through utility rates; *and*

**WHEREAS**, Various States and commissions are pursuing smart grid projects and deployment according to the needs and interests of their constituents; *now, therefore be it*

**RESOLVED**, That the Board of Directors of the National Association of Regulatory Utility Commissioners, convened at its 2009 Summer Committee Meetings in Seattle, Washington, recognizes the smart grid's potential to revolutionize the nation's energy grid; *and be it further*

**RESOLVED**, That NARUC agrees that to be most effective, the federal policies and standards that guide the deployment of the smart grid should be based on the following principles:

1. Smart grid policies and standards should enhance interoperability consistent with ensuring cyber security and maintaining or improving reliability.
2. The development of smart grid standards can best be achieved through a partnership among the States, the federal government, and industry. State commissions play an essential role in evaluating smart grid deployments; early deployments will influence the emergence of de facto and de jure standards.

3. Smart grid standards and policies should seek to achieve maximum consumer, reliability, and environmental benefits and to provide opportunities for innovation, consistent with providing utility service to consumers at fair, just, and reasonable rates.
4. There is inherent value within the State regulatory process and the manner in which it balances the needs of the utilities, the grid system, and consumers.
5. State commissions have jurisdiction over the elements of smart grid improvements that are within their vested authority; FERC should not authorize cost recovery for smart grid investments that are within the State commissions' jurisdiction; FERC and the State commissions must prohibit double cost recovery for the same investment.
6. Smart grid standards should enable a common semantic framework and provide for cyber secure interoperable communications through open protocols and standards (including Internet-based protocols and standards) if available and appropriate.
7. Smart grid policies and standards should be flexible and together with RTO policies and tariffs, should accommodate various State regulatory contexts, retail rate structures, and policy goals.
8. Smart grid policies and standards should promote a flexible, non-proprietary, open infrastructure that is upgradable to avoid excess costs as a result of obsolescence.
9. Smart grid policies should encourage interoperability of the electric grid and information services to foster a vast array of resources and information services.
10. Smart grid policies and standards should balance the costs of the smart grid with the benefits of the smart grid and the costs and benefits should be quantified to the extent possible.

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*Sponsored by the Committees on Electricity, Energy Resources and the Environment,  
and Critical Infrastructure*  
*Adopted by the NARUC Board of Directors July 22, 2009*