

requirements for technical assistance to States to allow them to maximize the amount of demand response resources that can be developed and deployed; (2) design and identify requirements for implementation of a national communications program that includes broad-based customer education and support; (3) develop or identify analytical tools, information, model regulatory provisions, model contracts, and other support materials for use by customers, States, utilities and demand response providers.¹

NASUCA commends FERC on developing the Discussion Draft. It provides an initial framework to facilitate consumers' ability to understand the rapidly changing electric industry and the critical role they will play in its success or failure. NASUCA's comments focus on the second aspect of Congress' mandate to FERC, the development of a national communications program that includes broad-based customer education and support.

II. SUMMARY OF NASUCA'S COMMENTS:

The Draft National Action Plan does not address the most important smart grid question for consumers: is the significant expenditure necessary to implement smart grid technologies a good value for consumers? That question is being debated, and decided, in the states. The onus in those proceedings should be on the party seeking to implement smart grid technologies. If it cannot be demonstrated that customers are getting good value for the money they would be required to spend on the project, there should be a re-examination to determine what, if anything, can be done to provide that value to customers. This process will take place at the State level.

¹ 42 U.S.C. § 8279 (2007).

In these comments, NASUCA will analyze the importance of a consumer education approach that complements the decisions made by the States to implement additional demand response; identify the most important elements of the FERC Discussion Draft concerning the development of a consumer education plan; and recommend substantive elements that should be included in the message conveyed to consumers.

III. DISCUSSION

There is a great deal of focus in the Draft Action Plan on the implementation of a “smart grid.” Of course, a variety of demand response programs are already in place and more are possible even without developing a smart grid. However, an advantage touted by smart grid proponents is that it should help facilitate the development of additional demand response. As defined in FERC’s National Action Plan, demand response is *a reduction in the consumption of electric energy by customers from their expected consumption in response to an increase in the price of electric energy or to an incentive payment designed to induce lower consumption of electric energy.*² The National Action Plan focuses on demand response, and particularly issues related to metering for small customers. Implementation of new pricing structures for small customers, which will require removing working, and usually not-yet-paid-for, meters and installing new meters without a proven track record for durability and accuracy, is one possible element of a “smart grid.” The Department of Energy defines smart grid as *the electric delivery network from electrical generation to end-use customer integrated with the latest advances in digital and information technology to improve electric-system reliability, security, and*

² *Possible Elements of a National Action Plan on Demand Response, A Discussion Draft, quoting, Wholesale Competition in Regions with Organized Markets, Order No. 719 (Oct. 28, 2008).*

efficiency.³ The focus on demand response, and in particular new pricing schemes and metering for small customers, should not divert attention from advanced technologies that can be implanted at the transmission and distribution levels and provide value to customers independent of implementation of new metering for small customers.

Congress' mandate to FERC to develop a National Action Plan to establish strategies, technical assistance and tools to enable States to analyze the costs of various methods of achieving more demand response, including implementation of new metering, as well as potential benefits from implementation should not preempt in any way the decisions that need to be made by the States on whether implementation of these pricing schemes can provide value to customers. If and when an individual State decides to implement new pricing schemes, NASUCA believes customer education will be a significant part of any effort the States take to implement new pricing structures and new metering. NASUCA provides these comments to address customer education to complement the decisions on implementation of demand response made by the States.

In the Draft National Action Plan, the Staff recognizes that there are “many challenges” to crafting a “message” to consumers regarding demand response that would have national scope.⁴ There are, and will continue to be, significant differences in the policies and programs implemented in different utility service territories, even within the same jurisdiction. One utility in a State may implement advanced metering with new pricing structures, another utility in the same state may have direct load control programs in place but not advanced metering and new pricing schemes, and another utility may not implement either. The cost-effectiveness and

³ United States Department of Energy, *Introduction: What the Smart Grid Means to Regulators*, pg. 3

⁴ Draft National Action Plan, p. 22-3.

appropriateness of deploying new technology, particularly new metering, will depend on the circumstances of each utility, such as the current capability of its metering and operational systems, the load characteristics of its customers, and the density of its customers. The States are in the process of addressing these issues and making decisions on the deployment of new metering, or other technology, to facilitate greater demand response from small customers. It is not clear at this point to what extent the States will find that it is a reasonable and prudent expenditure of customers' money to implement "smart grid" technologies, including new metering. Therefore, NASUCA recommends that the focus of a national communication plan directed to small consumers be providing assistance to the consumer education and information efforts devised at the local level which can be based on the programs adopted by States for its utilities. Any uniform "national message" will be providing incorrect information to many of the customers who receive the message and will likely do more harm than good. An effort to provide funding or technical assistance to States and utilities that are implementing consumer education campaigns is the appropriate scope for a national communication plan on demand response.

A. Consumer Education and Empowerment Are Essential to the Success of the Smart Grid

While the cost effectiveness of smart grid features relating to small consumers has not been proven, it is absolutely certain that such features will not be successful if consumers fail to adopt them. In order for consumers to adopt the elements of the smart grid directly related to and of value to them, they must be educated to use the technology. Hence, the design of

effective communication programs that includes a broad-based customer education plan and support is of utmost importance to support whatever level of new consumer-related smart grid technologies are ultimately deployed by the States. It also is important to recognize that information and education must be provided over an extended period of time, to encourage “persistence.”

The current electric grid that has served this nation for the last one hundred years was identified by the National Academy of Engineering as being the supreme engineering achievement of the 20th Century and dubbed the ‘*workhorse of the modern world*’. In just the last two years, the federal government has enacted legislation to invest over four billion dollars in grants to utilities to purchase technical equipment to upgrade the current electric infrastructure to be a smart electric grid.⁵ Additionally, Congress enacted the Energy Independence and Security Act of 2007 (“EISA”) to *move the United States toward greater energy independence and security, to increase the production of clean renewable fuels, to protect consumers, to increase the efficiency of products, buildings, and vehicles, to promote research on and deploy greenhouse gas capture and storage options, and to improve the energy performance of the Federal Government.*⁶ However, the investments and stated objectives will be worthless if consumers are not engaged, functioning partners in the process. Consumer participation can only happen if consumers are informed, educated and perceive real value, and national support for assisting states to develop the appropriate messages to support their approved programs can help.

⁵ American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009).

⁶ Energy Independence and Security Act of 2007, 110 Pub. L. 140; 121 Stat.1492 (2007).

B. The Four Key Elements of the National Action Plan Needed to Develop a Useful Message on Demand Response to Consumers

NASUCA has identified four (4) elements from the National Action Plan that must be incorporated into consumer education regarding demand response. First, there must be information that addresses fundamental questions consumers have concerning demand response and smart grid. (Element 3) Second, demand response and energy efficiency, renewable energy, load shifting and smart grid are inseparable concepts that should be discussed together. (Element 5) Third, the message must be communicated in terms and concepts understood by consumers. (Element 6) Fourth, tailoring consumer education to local conditions is vital and foundational market research should be employed primarily at the local level in order to fine tune this education to the local market characteristics. (Element 2)

1. Developing a Message that Consumers Understand

In developing a message where smart grid technologies, particularly new metering, are adopted that consumers understand and support, it is necessary to address fundamental consumer concerns about the smart grid. NASUCA submits four fundamental questions to capture those consumer concerns. First, what is the role of demand response and how does that relate to the smart grid? Second, what will it cost and who will pay the cost? Third, what

tangible benefits are in it for me and do they outweigh the costs? Fourth, once the smart grid is deployed, how do I effectively and conveniently make the most effective use of it?

Consumers have not asked to participate in demand response programs or the smart grid. They expect electric service to be safe and reliable and available whenever they want it, *i.e.*, the lights will come on when they flip the switch. Hence, they need to understand why changes to the electrical grid are being studied and implemented. Customers should know the costs of the smart grid and have a clear understanding of who will bear the burden of the costs. Consumers will want to know what tangible benefits they are receiving in exchange for paying some or all of the costs of deployment of the smart grid, and for varying their usage patterns. They will need to have confidence that the benefits will outweigh the costs. If consumers do not feel they are receiving any benefits from the smart grid or their participation in demand response, they are not likely to adopt the smart grid and the smart grid will ultimately fail. In order to facilitate success, consumer education must first clearly articulate the function of the smart grid and describe the benefits consumers can receive from the smart grid and demand response programs. Once consumers understand the idea of the smart grid and demand response programs, they must then be educated as to how to effectively use the technology to their benefit.

2. Demand Response, Energy Efficiency, Energy Conservation, Renewable Energy, Load Shifting and Smart Grid Are Inseparable Concepts that Should Be Considered Together in Communications To Consumers

First, consumer participation in demand response pricing structures and the deployment of smart grid appear to be intertwined. Therefore, these two concepts should be included in any communications program together. Second, several pilot programs have shown that smart grid technology along with demand response programs have the potential to reduce consumers' energy consumption during hours of the day when the price of electricity is high. However, consumers can further reduce their energy consumption by employing energy efficiency and conservation methods. This will save money throughout the entire day. Additionally, there is the possibility that deployment of smart grid technologies and net metering capabilities would allow consumers to realize benefits by employing the use of distributed generation methods such as solar panels, small wind turbines and plug-in hybrid electrical vehicles. Therefore, in order to maximize the potential for consumer benefits, all of the concepts related to demand response should be included in consumer education.

3. Consumers Must Be Fluent in the Terminology Used in the Smart Grid Era.

Element 6 of the Discussion Draft recommends the development of consumer-friendly terminology for demand response and that a brand be developed for the concept. NASUCA agrees that it is imperative that whatever terms are selected, consumer education messages must be communicated in such a manner that consumers can understand. It is only with this level of understanding of smart grid terminology that consumers will be enabled to make informed choices about their energy usage. Consumers face potential bombardment from various entities who will offer various rate options. In some instances, utility company

customer service representatives will be in a position to recommend one of several rate options to consumers. Consumers need to understand the terms being used by the utility company's customer service representatives before they make a decision. Again, some plans and programs may vary by state and it is important that states be supported in developing appropriate localized messages in order to avoid unnecessary and counterproductive confusion.

4. Foundational Market Research Should Be Employed Primarily at the Local Level

Element 2 of the Discussion Draft recommends that foundational market research be conducted in order to gain insights into electric customer perceptions that will inform both the national and local campaign development. NASUCA recommends that if funds are expended on market research that a majority of the funds be expended at the local level in order to capture local market characteristics. By doing this, the local stakeholders, utility companies, advocates, and regulators can craft demand response programs that do not harm low income and elderly consumers but instead provide benefits to all.

Moreover, local market research that is focused on specific market characteristics will allow energy efficiency and renewable programs to be designed to best suit the market characteristics of the jurisdiction. For example, if the jurisdiction has a large rural population, local stakeholders can stress consumers' use of variable renewable generation such as wind turbines or solar panels on farmland. Conversely, if the jurisdiction has a large urban

population, the stakeholders can promote energy audits and energy efficiency measures as a means of reducing energy consumption.

C. The Substance of Messages on Demand Response and Smart Grid

Once the parameters of the National Action Plan are established, attention should be focused on what is contained within messages intended for consumers. NASUCA submits that those messages should include the following components.

1. A Basic Discussion on How Electric Generation and Delivery Works

At a basic level, consumers need to be educated about the generation of electricity and the infrastructure that delivers the electricity. By teaching consumers about these basics, they will have a better understanding of how electricity actually gets to their homes. Further, customers could gain a greater understanding of how system demand for electricity relates to the prices they will be charged. Once consumers understand the relationship between demand, production and the price charged, they will better understand the effect of reducing their consumption during times when the demand for electricity is higher.

2. All Terms Must Be Clearly and Fully Defined in a Manner That Can Be Understood by Consumers.

In order for consumers to meaningfully participate in demand response programs, consumers must understand the basic language of the changing electric industry. Terms such as *critical peak, hourly pricing and direct load control* are just a few of the terms that are involved in certain types of demand response programs that consumers will need to understand.

Additionally, since demand response is just one aspect of smart grid proposals, additional terms

such as *net metering* and *distributed generation* should be taught in order for consumers to be able to make use of renewable energy programs. These terms must be explained in clear and unambiguous language.

Local stakeholders should consider convening focus groups in order to determine the most effective manner in which to convey these terms.

3. Consumers Should Be Provided with a Smart Grid Resource Guide or Clearinghouse

Consumer education should inform consumers about the role of the federal government in developing the smart grid and which federal agencies are responsible for certain standards. This discussion should also direct consumers to contact their state public service commissions, utility consumer advocates and legislative bodies for more information about how their particular state smart grid efforts evolved and more importantly how the consumer can actively participate in future proceedings.

Information regarding local energy efficiency and energy conservation programs available through utilities and state and local energy offices should also be provided. This information is critical as demand response programs will only reduce energy consumption to a certain extent. Consumers need to be educated about energy efficiency and renewable energy programs that range from low cost measures to high cost measures. Once consumers are aware of the range of energy efficiency measures available, they can take steps to make their homes more energy efficient. Without the ability to increase the efficiency of their homes, the smart meter will only measure how inefficient their homes are.

4. Consumers Should Be Equipped with the Ability to Calculate their Home Energy Profile

Fundamental to the concept that demand drives cost is an understanding of how energy is consumed in the home or business. Consumers need to know that some appliances consume significant energy even when they are not being used and what steps can be taken in order to eliminate this wasteful consumption. Consumers also need to understand how the size of their home, the types of windows used and the amount and type of insulation used contributes to the amount of electricity used to heat and cool their homes. Taken together, all of this information should be designed to allow the consumer to calculate their own home energy profile. The benefit of the home energy profile is that it is actionable information that allows the consumer to take steps to reduce their energy consumption. This type of information combined with a home energy audit and energy efficient measures will allow consumers to develop a comprehensive energy plan. As part of the educational process, consumers should be provided with a means to find credible service providers to implement such energy improvements.

5. Consumers Need Information Regarding Demand Response Rate Options

Consumer education messages need to inform consumers in states where demand response pricing structures have been implemented about the different type of demand response rates that are available. Specifically, consumers need to be made aware of how each program works and the potential benefits of each. Armed with this information, consumers can select the type of demand response pricing program that best fits their home energy profile and lifestyle. Moreover, consumers will learn the potential benefits of demand response namely, the ability to have greater control over their energy use during times when the price of electricity is high.

NASUCA warns against promising consumers they will see unrealistic decreases in their electric bills. In light of surcharges to cover the cost of deploying the smart grid (the cost to recover the value of the existing assets being removed and the surcharge for decoupling mechanisms being approved throughout the country) any economic savings realized from decreasing energy use during peak times will be reduced by these surcharges.

6. The Benefit of Smart Grid Empowerment Tools

Customer education messages, without naming certain brands, need to educate consumers about the benefits that can be gained from using one of a number of smart grid empowerment tools that can be used in conjunction with demand response programs. In particular, consumers need to be aware that certain types of smart thermostats can automatically control the energy use of certain appliances once the consumer programs the thermostat. Additionally, consumers need to be aware of how in-home displays and home area networks can provide detailed electric consumption data that can be used to make decisions to control energy usage. Lastly, consumers need to be aware of the wide range of empowerment tools that allow consumers to automatically or remotely control their home energy use from any computer or cell phone type device.

IV. CONCLUSION

In sum, any communication program to educate consumers about smart grid and demand response proposals and technologies 1) should be locally tailored in order to preserve state processes and unique differences; 2) should clearly indicate the benefits and costs to consumers; 3) should provide useful and consumer friendly education about the technologies and how to use them to add value; and 4) should note that smart grid and demand response technologies may not lower all customers' bills given the stranded costs and infrastructure costs but could provide other benefits, which benefits should be spelled out.

Respectfully submitted,

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