

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

Smart Grid Interoperability Standards

)

Docket No. RM11-2-000

**COMMENTS OF THE DEMAND RESPONSE AND SMART GRID COALITION
(DRSG)**

Introduction

The Demand Response and Smart Grid Coalition (DRSG) is the trade association for companies that provide products and services in the areas of demand response, smart meters and smart grid technologies. DRSG works to educate and provide information to policymakers, utilities, the media, the financial community and stakeholders on how demand response practices and smart grid technologies such as smart meters can help modernize our electricity system and provide customers with new information and options for managing their electricity use.

While DRSG as an organization is not a member of the Smart Grid Interoperability Panel (SGIP), most, if not all, DRSG member companies are SGIP members and do participate in SGIP activities. DRSG provides these comments to the Commission as part of our overall goal of achieving a process and framework that supports smart grid interoperability.

DRSG supports the development of an interoperable and secure electric grid that is based on open standards. DRSG believes policymakers need to understand that standards are important but are not the “one answer” to achieving that goal. The second thing that needs to be understood is that, in the case of standards, they are an evolutionary process, not a final destination, and certainly not a destination that should be chosen by policymakers. Government’s proper role is to encourage and promote standards, while allowing project implementers the necessary latitude to

select appropriate standards for specific projects. This has indeed been the situation within the electricity industry for some time. To that end, DRSG believes that policymakers and other stakeholders should be respectful of the existing standard-setting, certification and testing processes that have worked well within the industry for many decades and that they should embrace these efforts when it comes to technical standards development for smart grid.

DRSG believes that decisions on the use of specific technical standards should be made by utilities or other entities implementing the smart grid based on a reference catalog of reasonable technical standards, such as the one developed by the industry-led Smart Grid Interoperability Panel (SGIP). These technical standards should be included in NIST's Smart Grid Framework and should be part of a continuing expansion of reasonable technical standards that can provide a safe harbor for smart grid implementations that are undertaken.

FERC and State Regulatory Commissions Should Focus on the Process and not the Snapshot

The Energy Information and Security Act (EISA) of 2007 included provisions to accelerate and promote adoption of interoperability standards. Section 1305 (d) states: “the Commission shall institute a rulemaking proceeding to adopt such standards and protocols as may be necessary to insure smart-grid functionality and interoperability in interstate transmission of electric power, and regional and wholesale markets.”

Since the enactment of EISA, most policymakers have looked to the NIST process as something that gave them conceptual comfort that they would have technical standards they could rely on in this “new” area of smart grid. This mindset on the part of policymakers has likely always been incorrect. As noted elsewhere in this document, technical-standard setting has always been, and will continue to be, an on-going process and is not a goal that once reached

becomes static. Instead, as noted in the introduction above, EISA set forth a process by which NIST would develop a framework for how to consider standards for smart grid application. EISA in turn directed the Commission to be part of this process and to use its discretion on how to participate. EISA did not instruct the creation and adoption of new technical standards by government.

As a first step, DRSG believes the Commission should use its EISA-derived responsibilities to clearly define interoperability. DRSG also believes that the Commission should define any related actionable policy objectives, so that both existing technical standards and new technical standards may be evaluated for application to the smart grid.

To accomplish this, DRSG suggests that one action be that the Commission make use of the GridWise Architecture Council's "Introduction to Interoperability and Decision-Maker's Interoperability Checklist, Version 1.5."

Today, NIST has a working list of 75 standards available for public review and comment. It should be understood, however, that the identification of any standard by NIST represents a snapshot in time. Therefore, the list of standards should be considered a living document. As such, it requires periodic and detailed review that can yield evidence-driven revisions and/or redactions.

Having said that, DRSG believes that there are two areas where extreme caution must be employed:

- First, what must not happen now is for policymakers—particularly at the state level—to begin to think that they cannot allow smart grid projects to move forward because the NIST process is a necessary threshold. As noted, the NIST

process is evolutionary, and an effective halt until some final state is reached is neither realistic nor would it enhance the overall goals related to interoperability.

- Second, many utilities are moving forward with smart metering and smart grid projects, based on solid business benefits approved by the relevant regulators.

Decisions regarding the standards-selection process and future standards should not be used on a retroactive basis to slow those projects.

Technical standards are important to smart grid for a number of reasons, including one that is not often discussed—international competitiveness. The NIST process, properly implemented, will accelerate smart grid investments at home and abroad, thus fostering the global competitiveness of US smart grid manufacturers. It should be noted that several international organizations and trade associations (e.g., Transatlantic Business Dialogue, APEC, etc.) have identified “harmonization of technical standards” as a key policy priority.

Technical Standards Should Be Voluntary

DRSG recommends that the Commission not adopt specific smart grid standards in this proceeding. DRSG believes that open standards and protocols are critical to fostering innovation. As standards are evolutionary, however, the Commission should avoid mandating specific technical standards or technologies that could hinder technological development and global competitiveness. Utilities and others should be allowed flexibility to determine which technical standards will realize the interoperability objectives adopted by the Commission.

Final decisions on technical standards should be made by utilities and others implementing the smart grid using a list of reasonable technical standards. The NIST Framework currently under revision represents a repository of good ideas related to smart grid applications

and functionality. It should never, in any form, be considered a comprehensive resource for smart grid solutions or a mandate for implementation. More than anything, any list of NIST-identified standards and/or the Smart Grid Interoperability Panel's (SGIP) catalog of standards would be nothing more than a standardized way for representing the characteristics that surround a technical standard such as the source, contacts, smart grid domain, and methods for commenting on the standard's relevance to smart grid. The NIST framework should be thought of as a necessary element but not the sole element.

DRSG believes the five proposed IEC standards presently before the Commission are relevant to smart grid interoperability. However, DRSG recommends that they be set aside. The Commission should focus on adoption of the NIST Smart Grid Framework. Once in place, that framework will help with the identification of relevant technical standards and thus be a guide for those parties undertaking smart grid implementations. Adopting specific technical standards as "required" for a smart grid implementation is not something that the Commission should do. It is not appropriate due to the dynamic nature of smart grid technology development, the breadth of standards-development activities currently underway, and the potential for such action to stifle innovation and progress.

DRSG believes that the Commission should focus on determining whether existing standard-setting processes are adequate. DRSG views the process being coordinated by NIST through the SGIP, along with standards development underway at various technical standards organizations, as creating the necessary standards framework for a secure and interoperable smart grid. DRSG supports the Commission's guidance and oversight of this process.

Consensus is Achieved through the Processes of Both the SGIP and Standards Setting Organizations (SSO)

DRSG believes that the Commission should focus on the work of NIST and the SGIP but also on the ongoing standards development activity within SSOs. DRSG believes this collective activity is representative of the development of consensus.

The SGIP was created to support NIST in coordinating the development of an interoperability framework including protocols and model technical standards. NIST's role with respect to achieving consensus, in DRSG's view, is to identify various technical standards that are reasonable for use for the smart grid. DRSG supported the NIST process when it was initiated via the enactment of EISA. That language says that NIST "shall have primary responsibility to coordinate the development of a framework that includes protocols and model standards.....to achieve interoperability."

The SGIP provides an open process in which stakeholders participate in the ongoing coordination, revision, acceleration and harmonization of technical-standards development for the smart grid. SGIP functions through the voluntary contributions of stakeholders and public entities, and such parties have been active to date. Various SGIP work products, including the Catalog of Standards, are excellent references for the NIST Framework. There are several checkpoints within the SGIP processes to determine that there is sufficient consensus surrounding the applicability of a standard for smart grid.

As for consensus building within each Standard Setting Organization (SSO), each of them implements its own form of consensus building in order to ratify a standard, as exemplified by those organizations that are also ANSI-accredited standards development organizations (SDOs). These processes are designed to produce a high degree of consensus regarding the content of standards and their utility in facilitating smart grid interoperability.

Nationwide Consistency is Needed on the Definition of and Policy Objectives for Interoperability

DRSG believes that interoperability is critical to enabling the interconnection and reliability required to implement the smart grid, both now and in the future. As smart grid evolves and more points are interconnected, interoperability is an essential factor in driving innovation, increasing business value and enabling greater functionality. Therefore, it is essential that a uniform definition of interoperability and a set of actionable policy objectives be adopted for nationwide application.

Regulatory consistency and clarity on an interoperability definition, on policy objectives and on identified voluntary technical standards (within the NIST Framework) are key to enabling manufacturers to develop and market new grid-management technologies that can integrate with other new as well as existing devices. As smart grid evolves, on-going development and maintenance of technical standards is required to ensure interoperability. The coordination process established by NIST with SGIP provides an effective method to do that. It is designed to collaborate with SSOs while maintaining the NIST Framework.

Failure to adopt a single definition of interoperability and a framework will defeat the purpose of EISA. It will stifle smart grid investments and hinder the global competitiveness of US smart grid manufacturers. More importantly, it will create significant cost impacts for electricity customers and other stakeholders. DRSG encourages continued collaboration between the Commission and the state regulators or local governing boards and their use of a common interoperability definition and reference to the NIST Framework.

Three of the primary benefits of smart grids are (1) the provision to end users of detailed energy usage, cost, and price; (2) the enabling of dynamic pricing options such as time-of-use, critical peak pricing, and peak time rebates; and (3) the enabling of automated control of

thermostats, appliances, lighting, and other equipment. These three benefits are, in turn, enabled by three key technical standard interfaces. A brief examination serves as an example of the importance of interoperability.

The OpenHAN (Open Home Area Network) interface is between the meter and one or more devices on the customer's premise, such as a gateway, in-home display, router, smart thermostat, or smart appliance. This is a near real-time interface with data as recent as 10 seconds old from the meter. The OpenADE (Open Automated Data Exchange) interface is between a back office data center at or for the utility and a third party data center that is authorized by the end user to receive the data. This data is typically several hours to a day or two old. The OpenADR (Open Automated Demand Response) interface is implemented at the system, or back office, level and used for communicating demand response events or price signals between market participants (e.g. ISOs and distribution utilities), and ultimately to customer premise equipment programmed to respond to the signals. All three interfaces are used for sending and receiving, in some cases, of data and control signals.

Regulatory Adoption of Interoperability Should Focus on Reasonableness of a Specific Proposed Implementation

Utilities, services providers and technology firms must be allowed flexibility to determine which technical standards within the NIST Framework and/or universe of other applicable technical standards are appropriate for a specific implementation and also what specific interoperability objectives are appropriate for that implementation.

The identification and evaluation of technical standards in the NIST process is only one of several steps involved in the standards-adoption lifecycle. Any proposed technical standard for adoption should also be assessed on the following aspects: operational impacts including

reliability and safety; cost-effectiveness; backward compatibility or legacy migration considerations; conformity testing and certification; commercially available products; and successful reference implementations. The specific application of any technical standard must be considered within the context of its use from an engineering-economic basis that addresses these aspects.

For these reasons, it is important that technical standards be voluntary and that utilities and others be afforded the responsibility of determining how to implement smart grid technology and systems to achieve interoperability objectives defined by regulators. Regulators should, therefore, focus on whether jurisdictional utility and service provider proposals for rate recovery achieve interoperability objectives and not on whether particular technical standards have been employed.

Conclusion

WHEREFORE, DRSG appreciates the opportunity to Comment before the Commission and respectfully requests that the Commission consider these Comments. DRSG stands ready to answer any further questions the Commission may have.

Respectfully submitted,

/s/ Dan Delurey

Dan Delurey
Demand Response and Smart Grid Coalition
1301 Connecticut Avenue NW
Suite 350
Washington, DC 20036
Phone: (202) 296-1686
Email: dan.delurey@drsgcoalition.org

Dated: April 8, 2011