



Smart Grid Technology Is Addressed by FERC in Proposed Policy Statement

On March 19, 2009, the Federal Energy Regulatory Commission (“FERC”) issued a proposed policy statement and action plan to provide guidance for the development of smart grid devices and systems. The proposed policy statement will 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 standards are adopted through a formal FERC rulemaking.

Background

The *Energy Independence and Security Act of 2007* (“EISA”) requires FERC to adopt, through a rulemaking, standards and protocols necessary to ensure smart grid functionality and interoperability in the interstate transmission of electric power and in regional and wholesale markets. FERC is directed to do so once it is satisfied that the National Institute of Standards and Technology (“NIST”) has made “sufficient consensus” on interoperability standards. “Interoperability” is described as “the ability of a system or a product to work with other systems or products without special effort on the part of the customer...” The EISA contains no specific deadline for the creation of interoperability standards. Nonetheless, FERC stated that there is a sense of urgency within industry and government for the development of standards for the deployment of smart grid technologies generally due to the increased integration of renewable resources into the grid and the increased reliance on demand response.

Smart Grid Standards

FERC is particularly interested in the development of smart grid functions and characteristics that can help address challenges to the FERC-jurisdictional Bulk Power System. To address these challenges, FERC proposes to prioritize the development of smart grid interoperability standards for two “cross-cutting” issues and four key grid functionalities related to the integration of renewable resources into the electric grid.

Cross-Cutting Issues: Cybersecurity and Inter-System Communication and Coordination

FERC proposes to direct NIST to undertake the necessary steps to assure that each standard and protocol that is developed as part of NIST’s interoperability framework is consistent with the overarching cybersecurity and reliability mandates of the EISA as well as existing reliability standards approved by FERC pursuant to section 215 of the Federal Power Act. FERC proposes to make consistency with cybersecurity and reliability standards a precondition to its adoption of smart grid standards.

Furthermore, FERC proposes to identify standards for common information models for inter-system interfaces (*i.e.*, a common semantic framework and software models for enabling effective communications and coordination at the boundaries of utility systems where these interface with customer and other systems and hence provide “inter-system” functionality) as a high priority for accelerated development.

Four Key Grid Functionalities

Given that many utilities are already beginning to deploy smart grid related systems (*i.e.*, renewable resources

and demand response tools), and that Congress has provided substantial funding for smart grid deployments in the American Recovery and Reinvestment Act, FERC proposes a targeted acceleration of “four key grid functionalities” that involve:

Wide-area situational awareness. Wide-area situational awareness is the visual display of interconnection-wide system conditions in near real time at the reliability coordinator level and above. The potential smart grid role in addressing transmission congestion and optimization of the system involves the increased deployment of advanced sensors that will give Bulk Power System operators access to large volumes of high-quality information about the actual state of the electric system. FERC recognizes that advanced software and systems will be needed to manage, process, and render the large volumes of data. Therefore, FERC encourages the NIST’s process to identify the core requirements for such software and systems that would be most useful to system operators in addressing transmission congestion and reliability.

Demand Response. FERC believes that smart grid-enabled demand response is a priority because of its potential to help address several of the Bulk Power System challenges, such as over-generation. Therefore, FERC encourages the further development of key standards that would enhance interoperability and communications between system operators, demand response resources, and the systems that support them.

Electric storage. FERC stated that if electricity storage technologies could be more widely deployed, they would present another important means of addressing some of the difficult issues facing the electric industry. While further research and development appears necessary before any widespread deployment of such newer technologies can take place, FERC nevertheless encourages the identification and standardization of all possible electricity storage use cases at an early stage.

Electric transportation. Ultimately, FERC stated that it hopes for a smarter grid to accommodate a wide array of advanced options for electric vehicle interaction with the grid, including full vehicle-to-grid capabilities. However,

assuming full vehicle-to-grid capabilities cannot be achieved immediately, FERC encourages the NIST’s process to focus on the development of appropriate standards, or extensions to relevant existing standards, to provide at least the minimum communications and interoperability requirements that are necessary to permit some ability for distribution utilities to facilitate vehicle charging during off-peak load periods.

Rate Policy

FERC stated that smart grid policies should encourage utilities to deploy systems in the near term that advance efficiency, security, and interoperability in order to address potential challenges to the Bulk Power System. FERC recognizes that a key consideration of public utilities in deciding whether to invest in smart grid technologies involves the potential for stranded costs associated with legacy systems that are replaced with smart grid equipment. Another key consideration for utilities when determining whether to adopt such systems will be whether they are able to recover the costs of these deployments in regulated rates.

Thus, to offer some rate certainty and guidance regarding cost recovery issues, and therefore to encourage the investment in and development of smart grid devices and systems, FERC proposes a rate policy for the interim period until final interoperability standards are adopted. Under the interim rate policy, utilities should be able to recover the costs of smart grid investments if they can: (a) demonstrate that the smart grid technology will comply with security and reliability standards; and (b) minimize the possibility of stranded investment costs by installing systems that can be upgraded to meet new interoperability standards.

Comments on the proposed policy statement are due on or before May 11, 2009.

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