



DOE Announces Grant Programs for Smart Grid Technology

By V&E lawyers John Decker, Steve Angle, and Jo Ann Biggs

April 20, 2009

On April 16, 2009, the **U.S. Department of Energy (DOE)** announced plans to implement two programs to spur investment in smart grid technology, Phasor Measurement Unit (PMU) technology, and energy storage technology. The two programs – the Smart Grid Investment Grant Program and Smart Grid Demonstration Program – were authorized by the Energy Independence and Security Act of 2007 and later modified by the American Recovery and Reinvestment Act of 2009. Together, they comprise nearly \$4 billion in funds that will be available to develop, test, and implement new technologies. DOE is soliciting comments on these programs through May 6, 2009 and expects to issue Funding Opportunity Announcements (FOAs) on June 17, 2009.

Smart Grid Investment Grant Program

The Investment Grant Program will provide grants of up to \$20 million for smart grid technology deployment and \$5 million for PMU deployment, with the recipient expected to contribute at least 50 percent of the costs. A total of \$3.375 billion is available. The goal of the program is to spur development and installation of digital technology to modernize the electricity delivery system in the U.S. and to gather data regarding the effectiveness of the various technological advancements. The overall goal of installing smart grid technology is to increase energy efficiency by reducing demand for electricity, reducing costs of delivering electricity, better matching demand to resources, and increasing the reliability of the transmission grid. PMU technology provides real-time, time-synchronized measurements of the status of the grid.

Applications should advance one or more of the identified “smart grid functions” and present projects that can be completed within a two-year time frame. The smart grid functions include the measurement and/or transmission of data regarding electricity prices and usage, detection of disruptions or changes in power flows, responses to security threats, control of appliances or machines without human intervention, and use of digital controls to manage electricity demand and congestion. The DOE is particularly interested in obtaining data from the implementation of smart grid technology to measure the relative benefits of the technology. Thus, projects that can produce valuable data, such as through the use of randomized trials and experimental and control groups, will be favored.

The DOE may evaluate applications based on four major criteria. First, proposals should reflect a complete plan that identifies the benefits of the proposal and includes discussion of cyber-security concerns while demonstrating the ability to be completed within the budget and on schedule. Second, proposals must advance the deployment of the smart grid and achieve demonstrable public benefits through that deployment. Third, proposals should



discuss job creation and retention. Finally, proposals will be evaluated based on the extent of the cost-share proposed.

The DOE anticipates three separate due dates for grant applications – July 29, 2009, December 2, 2009, and March 31, 2010 – but cannot guarantee that funds will be available beyond the first deadline.

Smart Grid Demonstration Funding Opportunity Announcement

The Demonstration Program will award cooperative agreements of up to \$40 million for projects involving regional demonstrations of smart grid technology, \$50 million for PMU technology, and \$60 million for energy storage technology. A total of \$615 million in funding is available. The goal of the Demonstration Program is to demonstrate the effectiveness of the technologies and present a case for their implementation nationwide to improve energy efficiency, better match demand for electricity with supply, and increase the reliability of the grid. Within each of the three main categories – smart grid technology, PMU technology, and energy storage technology – the DOE is offering funding in a number of sub-areas.

The two subcategories of smart-grid funding opportunities are those involving investor-owned utilities and those involving publicly-owned utilities. As these categories suggest, the goal is to solicit applications that involve a partnership to install demonstration smart grid technology in conjunction with at least one utility, with eight to 12 total awards expected. The DOE is seeking applications across the eight regions of the North American Reliability Council (NERC). The DOE has also stated a particular interest in addressing cyber-security concerns within the applications.

While the PMU technology portion of the Demonstration Program does not have subparts, the DOE is seeking a wide range of potential projects on a broad scale. There are four listed examples of the types of demonstration projects that would be appropriate, including installing PMU technology across an entire NERC region, establishing links between NERC coordinators and major balancing area authorities within the region, connecting and obtaining data from all large renewable generators and key substations within a specific area, and creating a publish-and-subscribe middleware and data bus application to link data publishers and subscribers. Four to five total awards are expected.

The final major category is energy storage technology. The first sub-area for funding is battery storage to match intermittent energy from such sources as wind farms. The storage can be located at either the wind farm or within areas of load. The remaining sub-areas are frequency regulation ancillary services, distributed energy storage for grid support, compressed air energy storage, and demonstration of promising energy storage. Twelve to 19 awards are expected. The DOE again has stated a particular interest in demonstrating the security of these technologies from cyber attack.



The DOE has provided four criteria for evaluating applications under the Demonstration Program. The first criterion is the completeness of the demonstration and its ability to adequately address and advance an area of need. The second criterion is the significance of the project – its ability to be broadly applicable and achieve public benefits compared to current practices. The third criterion is the ability of the proposal to provide adequate data for evaluation, demonstrate cyber security protection, and be completed within the time frame (three-five years). Finally, the quality of the proposed project team and the overall corporate commitment will be evaluated. The applicant is expected to contribute at least 50 percent of the costs.

The DOE has not indicated when grant applications will be due.

What to Do Right Now

Companies considering submitting applications for the Investment Grant Program or the Demonstration Program may wish to submit comments to the DOE by May 6, 2009. In addition, potential applicants should begin the process of registering to submit their applications electronically, as the process may take several weeks to complete. Potential applicants may also begin writing their applications based on the draft documents because the application deadlines will occur a short time after the final FOAs are issued.

Please contact V&E attorneys [Steve Angle](#), [John Decker](#), [Jo Ann Biggs](#) for further information regarding the Investment Grant Program or the Demonstration Program or other funding opportunities that may be available through the DOE. Visit our website to learn more about Vinson & Elkins' [Energy Regulatory practice](#).

This paper is intended for educational and informational purposes only and does not constitute legal advice or services. If legal advice is required, the services of a competent professional should be sought. These materials represent the views of and summaries of the author, and do not necessarily reflect the opinions or views of Vinson & Elkins LLP or of any of its other attorneys or clients. It is not guaranteed to be correct, complete, or current, and it is not intended to imply or establish standards of care applicable to any attorney in any particular circumstance. Prior results do not guarantee a similar outcome.