

**NARUC/FERC SMART GRID COLLABORATIVE**  
**Proposed Funding Criteria for the ARRA Smart Grid Matching Grant Program<sup>1</sup>**  
**and the ARRA Smart Grid Demonstration Projects<sup>2</sup>**

The American Recovery and Reinvestment Act of 2009 (ARRA)<sup>3</sup> includes the following language:

- (e) Procedures and Rules- (1) The Secretary shall, within 60 days after the enactment of the American Recovery and Reinvestment Act of 2009, by means of a notice of intent and subsequent solicitation of grant proposals--
- (A) establish procedures by which applicants can obtain grants of not more than one-half of their documented costs;

The Collaborative submits the following funding criteria that the Collaborative members would find helpful in carrying out their legal responsibilities as they relate to Smart Grid. The Collaborative asks the Department of Energy (DOE) to consider these criteria when establishing procedures under which applicants can receive ARRA funding for Smart Grid Matching Grants and for ARRA Smart Grid Demonstration Projects.

**FUNDING CRITERIA**

1. Preconditions for Grants – Any application for grant funding must address the following issues:
  - a. How the project will provide for interoperability in the absence of approved standards (e.g., adherence to existing open standards, secure upgradeability once standards approved);
  - b. How the project will address cyber security issues and ensure that it maintains compliance with Federal Energy Regulatory Commission-approved reliability standards during and after the installation of Smart Grid technologies;
  - c. How the project has minimized the possibility of stranded investment in Smart Grid equipment by designing for the ability to be upgraded;
  - d. How the applicant proposes to share information with the Department of Energy Smart Grid Clearinghouse, as further described in the FERC Policy Statement;

---

<sup>1</sup> 42 USC 17386, Energy Independence and Security Act (EISA) Sec. 1306, Federal Matching Fund for Smart Grid Investment Costs, as amended by American Recovery and Reinvestment Act of 2009 (ARRA).

<sup>2</sup> 42 USC 17384, EISA Sec. 1304, Smart Grid Technology Research, Development, And Demonstration, as amended by ARRA.

<sup>3</sup> See, ARRA, [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111\\_cong\\_bills&docid=f:h1enr.txt.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:h1enr.txt.pdf).

- e. How the project will maintain the reliability of the grid;
  - f. How the project will preserve the integrity of data communicated (whether the data is correct);
  - g. How the project will provide for authentication of communications (whether the communication is between the intended Smart Grid device and an authorized device or person);
  - h. How the project will prevent unauthorized modifications to Smart Grid devices and the logging of all modifications made;
  - i. How the project will ensure the physical protection of Smart Grid devices; and
  - j. How the project will address the potential impact of unauthorized use of Smart Grid devices on the bulk-power system.
2. Overarching Criteria:
- a. The DOE funded portfolio of projects should include projects on both the transmission and distribution system, and on the customer side of the meter;
  - b. The DOE funded portfolio of projects should include a range of technologies – not just advanced meter installation (e.g., programmable communicating thermostats, smart appliances, and other technologies controlled by the end-use customer);
  - c. The DOE funded portfolio of projects should be broad reaching and with broad application potential;
  - d. The DOE funded portfolio of projects should be of sufficient scale that it will be able to apply statistical tests on where and how it impacts consumers, the grid, and technologies;
  - e. The DOE funded portfolio of projects should be geographically diverse to the extent practicable. All regions should be represented as well as projects in urban, rural and suburban settings;
  - f. The DOE may consider providing a waiver from some of the grant preconditions for a modest portion of the funds (say 10%), or for applicants with sales below a certain sales threshold (say 1-4 million MWH a year) in order to provide funds to small utilities who would not otherwise be able to comply with application requirements in a timely manner;
  - g. The DOE funded portfolio of projects should intend to provide benefits – which may include both customer and system-wide benefits; and
  - h. Early-adopter states should not be disadvantaged – existing projects can be eligible if they can show additional benefits or expansion of knowledge that are unique and not likely to be realized by other proposed projects.
3. Technologies – must first meet the preconditions above
- a. A range of technologies should be included such as, but not limited to, sensors on transmission and/or distribution equipment, digital communications in substations, and/or communications equipment not just

focused on AMI (e.g., programmable communicating thermostats, smart appliances, and other technologies controlled by the end-use customer).

- b. Projects can include replacement of legacy equipment and systems such as old bulk meters and capacitor banks with intelligent, smart grid capable equipment and/or systems.
  - c. Different communications protocols should be tested.
  - d. Physical and cybersecurity attributes of the range of technologies should be highlighted and tested.
  - e. System integration performed as part of the project should be based, to the extent practicable, on existing broadly accepted industry standards.
  - f. Priority should be given to projects that have an open architecture base that can become the basis for interoperability with multiple applications.
4. Rate Designs
- A range of technology options should be paired with existing or proposed rate designs, including dynamic rates, consistent with the purposes for which the project is designed.
5. Regulatory issues
- a. Consider the regulatory climate in the state where a project is proposed – is there legislative authority for dynamic rates?
  - b. Is there coordination between a given project and the RTO and / or system operator?
6. Information/data requirements – to be eligible for funding a grantee must agree to provide detailed data and documentation of project results, including the following information, as applicable to the project, to the DOE Clearinghouse<sup>4</sup> [not every project will deal with all the items listed]:
- a. Any internal or third party evaluations, ratings, and/or reviews including all primary source material used in the evaluation;
  - b. Detailed data and documentation explaining any improvement in the accurate measurement of energy efficiency, energy conservation, price responsive demand, or demand response resources;
  - c. Detailed data and documentation explaining the expansion of the quantity of energy efficiency, energy conservation, price responsive demand, or demand response resources that resulted from the project and the resulting economic effects;
  - d. Detailed data and documentation that shows reduction in both electric demand and energy consumption associated with the project;

---

<sup>4</sup> See, ARRA Sec. 405(3), amending EISA Sec. 1304(b)(3), 42 USC 17381.

- e. Detailed data and documentation for any improvements in the ability to integrate non-dispatchable renewable generation resources;
  - f. Detailed data and documentation that shows any achievement of greater system efficiency through a reduction of transmission congestion and loop flow;
  - g. Detailed data and documentation showing how the information infrastructure supports distributed resources such as plug-in electric vehicles;
  - h. Detailed data and documentation that shows how the project resulted in enhanced utilization of energy storage; and
  - i. Detailed data and documentation that shows how the project encouraged new business models, market innovation, and third party and private capital participation.
  - j. All data on project results must be publicly available while protecting individual customer privacy and commercially sensitive data (See Below).
7. Protection of individual customer privacy and commercially sensitive data. The fund recipient must provide a detailed explanation of:
- a. The types of customer-specific data it proposes to collect;
  - b. How it plans to protect this data from unintended disclosure;
  - c. The extent to which this data can be provided to the DOE in summary or aggregate form and still be responsive to report preparation requirements and the policy of public transparency;
  - d. The process proposed for obtaining customer permission to disclose private or commercially sensitive data, if such data must be disclosed; and
  - e. Any state or local requirements that are relevant to the disclosure of data specific to individual electric customers.
8. Mechanisms to measure customer response must be included as a requirement for funding
- a. Grantees must include independent monitoring and measurement of customer receptivity to the project.
    - 1. This information must be made available to the DOE Clearinghouse.
    - 2. The DOE Clearinghouse will develop guidelines for gathering and reporting this information