

works to improve system performance, power flow control, and reliability;

(D) to demonstrate protocols and standards that allow for the measurement and validation of the energy savings and fossil fuel emission reductions associated with the installation and use of energy efficiency and demand response technologies and practices; and

(E) to investigate differences in each region and regulatory environment regarding best practices in implementing smart grid technologies.

### (3) Demonstration projects

#### (A) In general

In carrying out the initiative,<sup>2</sup> the Secretary shall provide financial support to smart grid demonstration projects in urban, suburban, tribal, and rural areas, including areas where electric system assets are controlled by nonprofit entities and areas where electric system assets are controlled by investor-owned utilities.

#### (B) Cooperation

A demonstration project under subparagraph (A) shall be carried out in cooperation with the electric utility that owns the grid facilities in the electricity control area in which the demonstration project is carried out.

#### (C) Federal share of cost of technology investments

The Secretary shall provide to an electric utility described in subparagraph (B) or to other parties financial assistance for use in paying an amount equal to not more than 50 percent of the cost of qualifying advanced grid technology investments made by the electric utility or other party to carry out a demonstration project.

#### (D) Ineligibility for grants

No person or entity participating in any demonstration project conducted under this subsection shall be eligible for grants under section 17386 of this title for otherwise qualifying investments made as part of that demonstration project.

#### (E) Availability of data

The Secretary shall establish and maintain a smart grid information clearinghouse in a timely manner which will make data from smart grid demonstration projects and other sources available to the public. As a condition of receiving financial assistance under this subsection, a utility or other participant in a smart grid demonstration project shall provide such information as the Secretary may require to become available through the smart grid information clearinghouse in the form and within the timeframes as directed by the Secretary. The Secretary shall assure that business proprietary information and individual customer information is not included in the information made available through the clearinghouse.

### (F) Open protocols and standards

The Secretary shall require as a condition of receiving funding under this subsection that demonstration projects utilize open protocols and standards (including Internet-based protocols and standards) if available and appropriate.

### (c) Authorization of appropriations

There are authorized to be appropriated—

(1) to carry out subsection (a), such sums as are necessary for each of fiscal years 2008 through 2012; and

(2) to carry out subsection (b), such sums as may be necessary.

(Pub. L. 110-140, title XIII, §1304, Dec. 19, 2007, 121 Stat. 1786; Pub. L. 111-5, div. A, title IV, §405(1)-(4), Feb. 17, 2009, 123 Stat. 143, 144.)

#### AMENDMENTS

2009—Subsec. (b)(3)(A). Pub. L. 111-5, §405(1), amended subpar. (A) generally. Prior to amendment, text read as follows: “In carrying out the initiative, the Secretary shall carry out smart grid demonstration projects in up to 5 electricity control areas, including rural areas and at least 1 area in which the majority of generation and transmission assets are controlled by a tax-exempt entity.”

Subsec. (b)(3)(C). Pub. L. 111-5, §405(2), amended subpar. (C) generally. Prior to amendment, text read as follows: “The Secretary shall provide to an electric utility described in subparagraph (B) financial assistance for use in paying an amount equal to not more than 50 percent of the cost of qualifying advanced grid technology investments made by the electric utility to carry out a demonstration project.”

Subsec. (b)(3)(E), (F). Pub. L. 111-5, §405(3), added subpars. (E) and (F).

Subsec. (c)(2). Pub. L. 111-5, §405(4), amended par. (2) generally. Prior to amendment, par. (2) read as follows: “to carry out subsection (b), \$100,000,000 for each of fiscal years 2008 through 2012.”

### § 17385. Smart grid interoperability framework

#### (a) Interoperability framework

The Director of the National Institute of Standards and Technology shall have primary responsibility to coordinate the development of a framework that includes protocols and model standards for information management to achieve interoperability of smart grid devices and systems. Such protocols and standards shall further align policy, business, and technology approaches in a manner that would enable all electric resources, including demand-side resources, to contribute to an efficient, reliable electricity network. In developing such protocols and standards—

(1) the Director shall seek input and cooperation from the Commission, OEDER and its Smart Grid Task Force, the Smart Grid Advisory Committee, other relevant Federal and State agencies; and

(2) the Director shall also solicit input and cooperation from private entities interested in such protocols and standards, including but not limited to the Gridwise Architecture Council, the International Electrical and Electronics Engineers, the National Electric Reliability Organization recognized by the Federal Energy Regulatory Commission, and National Electrical Manufacturer’s Association.

<sup>2</sup>So in original. Probably should be “Initiative.”

**(b) Scope of framework**

The framework developed under subsection (a) shall be flexible, uniform and technology neutral, including but not limited to technologies for managing smart grid information, and designed—

(1) to accommodate traditional, centralized generation and transmission resources and consumer distributed resources, including distributed generation, renewable generation, energy storage, energy efficiency, and demand response and enabling devices and systems;

(2) to be flexible to incorporate—

(A) regional and organizational differences; and

(B) technological innovations;

(3) to consider the use of voluntary uniform standards for certain classes of mass-produced electric appliances and equipment for homes and businesses that enable customers, at their election and consistent with applicable State and Federal laws, and are manufactured with the ability to respond to electric grid emergencies and demand response signals by curtailing all, or a portion of, the electrical power consumed by the appliances or equipment in response to an emergency or demand response signal, including through—

(A) load reduction to reduce total electrical demand;

(B) adjustment of load to provide grid ancillary services; and

(C) in the event of a reliability crisis that threatens an outage, short-term load shedding to help preserve the stability of the grid; and

(4) such voluntary standards should incorporate appropriate manufacturer lead time.<sup>1</sup>

**(c) Timing of framework development**

The Institute shall begin work pursuant to this section within 60 days of December 19, 2007. The Institute shall provide and publish an initial report on progress toward recommended or consensus standards and protocols within 1 year after December 19, 2007, further reports at such times as developments warrant in the judgment of the Institute, and a final report when the Institute determines that the work is completed or that a Federal role is no longer necessary.

**(d) Standards for interoperability in Federal jurisdiction**

At any time after the Institute's work has led to sufficient consensus in the Commission's judgment, 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 electricity markets.

**(e) Authorization**

There are authorized to be appropriated for the purposes of this section \$5,000,000 to the Institute to support the activities required by this subsection<sup>2</sup> for each of fiscal years 2008 through 2012.

<sup>1</sup> So in original. Does not fit with subsec. (b) introductory provisions.

<sup>2</sup> So in original. Probably should be "section".

(Pub. L. 110-140, title XIII, §1305, Dec. 19, 2007, 121 Stat. 1787.)

## CODIFICATION

December 19, 2007, referred to in subsec. (c), was in the original "enactment" and was translated as meaning the date of enactment of Pub. L. 110-140, to reflect the probable intent of Congress.

**§ 17386. Federal matching fund for smart grid investment costs****(a) Matching fund**

The Secretary shall establish a Smart Grid Investment Matching Grant Program to provide grants of up to one-half (50 percent) of qualifying Smart Grid investments.

**(b) Qualifying investments**

Qualifying Smart Grid investments may include any of the following made on or after December 19, 2007:

(1) In the case of appliances covered for purposes of establishing energy conservation standards under part B of title III of the Energy Policy and Conservation Act of 1975 (42 U.S.C. 6291 et seq.), the documented expenditures incurred by a manufacturer of such appliances associated with purchasing or designing, creating the ability to manufacture, and manufacturing and installing for one calendar year, internal devices that allow the appliance to engage in Smart Grid functions.

(2) In the case of specialized electricity-using equipment, including motors and drivers, installed in industrial or commercial applications, the documented expenditures incurred by its owner or its manufacturer of installing devices or modifying that equipment to engage in Smart Grid functions.

(3) In the case of transmission and distribution equipment fitted with monitoring and communications devices to enable smart grid functions, the documented expenditures incurred by the electric utility to purchase and install such monitoring and communications devices.

(4) In the case of metering devices, sensors, control devices, and other devices integrated with and attached to an electric utility system or retail distributor or marketer of electricity that are capable of engaging in Smart Grid functions, the documented expenditures incurred by the electric utility, distributor, or marketer and its customers to purchase and install such devices.

(5) In the case of software that enables devices or computers to engage in Smart Grid functions, the documented purchase costs of the software.

(6) In the case of entities that operate or coordinate operations of regional electric grids, the documented expenditures for purchasing and installing such equipment that allows Smart Grid functions to operate and be combined or coordinated among multiple electric utilities and between that region and other regions.

(7) In the case of persons or entities other than electric utilities owning and operating a distributed electricity generator, the documented expenditures of enabling that genera-