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II

114TH CONGRESS
1ST SESSION

S. 1232

To amend the Energy Independence and Security Act of 2007 to modify provisions relating to smart grid modernization, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 6, 2015

Mr. WYDEN introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

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A BILL

To amend the Energy Independence and Security Act of 2007 to modify provisions relating to smart grid modernization, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Smart Grid Act of 2015''.

SEC. 2. SMART GRID INTEROPERABILITY WORKING GROUP.

Section 1303 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17383) is amended—

(1) by striking the section designation and heading and inserting the following:

"SEC. 1303. SMART GRID ADVISORY COMMITTEE; SMART GRID TASK FORCE; SMART GRID INTEROPERABILITY WORKING GROUP.";

(2) by redesignating subsection (c) as subsection (d);

(3) by inserting after subsection (b) the following:

''(c) SMART GRID INTEROPERABILITY WORKING GROUP.—

''(1) ESTABLISHMENT.—Not later than 180 days after the date of enactment of this paragraph, the Secretary, in collaboration with the National Institute of Standards and Technology of the Department of Commerce, the Institute of Electrical and Electronics Engineers, and the Smart Grid Interoperability Panel, shall establish a working group, to be known as the 'Smart Grid Interoperability Working Group'—

''(A) to identify additional efforts the Federal Government can take to better promote the establishment and adoption of open standards that enhance connectivity and interoperability on the electric grid;

''(B) to study the market and policy barriers to deploying responsive appliances at scale; and

''(C) to develop a plan for establishing and promoting the widespread adoption of interoperability standards.

''(2) MEMBERSHIP.—The Smart Grid Interoperability Working Group shall include such representatives as the Secretary determines to be appropriate from—

''(A) appliance manufacturers;

''(B) utilities;

''(C) software providers;

''(D) energy efficiency and environmental stakeholders; and

''(E) relevant Federal departments and agencies.

''(3) REPORT.—Not later than 18 months after the date of enactment of this paragraph, the Smart Grid Interoperability Working Group shall submit to the Secretary a report that describes the initial findings and recommendations of the Smart Grid Interoperability Working Group, as described in paragraph (1).''; and

(4) in subsection (d) (as redesignated by paragraph (2)), by striking ''and Smart Grid Task Force'' and inserting '', the Smart Grid Task Force,

and the Smart Grid Interoperability Working Group''.

SEC. 3. SMART GRID TECHNOLOGY RESEARCH, DEVELOPMENT, AND DEMONSTRATION PROGRAM POLICY.

Section 1304 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17384) is amended—

(1) in subsection (b)—

(A) in paragraph (1), in the second sentence, by inserting ''and lessons learned from demonstration projects implemented under this section'' before the period at the end;

(B) in paragraph (2)—

(i) in subparagraph (D), by striking ''and'' at the end;

(ii) in subparagraph (E), by striking the period at the end and inserting ''; and''; and

(iii) by adding at the end the following:

''(F) to identify best practices for the implementation of the Fair Information Practice Principles (FIPPS) of the Federal Trade Commission for the collection, use, disclosure, and

retention of individual customer information.''; and

(C) in paragraph (3)—

(i) in subparagraph (A)—

(I) by striking the subparagraph designation and heading and all that follows through ''the initiative'' and inserting the following:

''(A) FINANCIAL ASSISTANCE.—

''(i) IN GENERAL.—In carrying out the Initiative, subject to clause (ii)''; and

(II) by adding at the end the following:

''(ii) REQUIREMENT.—In selecting smart grid demonstration projects to receive assistance under this subparagraph, the Secretary shall ensure, to the maximum extent practicable—

''(I) geographical diversity; and

''(II) diversity among types of electricity markets and regulatory environments.'';

(ii) by redesignating subparagraphs (B) through (F) as subparagraphs (C) through (G), respectively;

(iii) by inserting after subparagraph (A) the following:

''(B) ADDITIONAL DEMONSTRATION PROJECT FUNDING.—

''(i) IN GENERAL.—In carrying out the Initiative, in addition to financial assistance provided under subparagraph (A), the Secretary shall provide grants, on a competitive basis, for demonstration projects in any of the following 7 program areas:

''(I) TRANSACTIVE ENERGY.—Projects that implement a system of economic or control mechanisms that optimizes the dynamic balance of supply and demand across the electrical infrastructure, using economic value as a key operational parameter.

''(II) INNOVATION IN VALUATION OF NEW TECHNOLOGY GRID SERVICES AND EFFICIENCY.—Projects that implement innovative ways of valuing the grid services provided by demand response, energy efficiency, distributed

generation, electric vehicles, and storage.

''(III) RATE DESIGN–DISTRIBUTION SYSTEM.—Projects that implement rates, such as 3-part rates, to equitably ensure cost-recovery and the reliability of the distribution grid, while also supporting the increased penetration of distributed generation, storage, and electric vehicles.

''(IV) RATE DESIGN–CONSUMER ACCEPTANCE OF TIME-BASED PRICING.—Projects that—

''(aa) study consumer adoption of time-based retail electricity rates through the implementation of time-based rates, in conjunction with randomized control trials; and

''(bb) may—

''(AA) provide to customers a range of time-based pricing options, as well as options to adopt enabling technology; and

"(BB) implement a heterogeneity of marketing and outreach approaches.

"(V) ENERGY STORAGE.—Projects that demonstrate innovative approaches for using energy storage for grid services, including—

"(aa) flexibility; and

"(bb) the integration of intermittent renewable energy.

"(VI) SMART ELECTRIC VEHICLE CHARGING.—Projects that—

"(aa) demonstrate innovative approaches for integrating electric vehicles into grid operations; or

"(bb) produce, test, and certify to IEEE/UL standards bidirectional power electronics for electric vehicles.

"(VII) OTHER PROGRAM AREA.—Projects in 1 additional program area that the Secretary may identify, by regulation.

"(ii) PRIORITY REQUIREMENTS.—In selecting demonstration projects to receive grants under clause (i), the Secretary shall give priority to—

"(I) for demonstration projects described in subclause (I) of clause (i), projects that—

"(aa) incorporate real-time prices and technologies that allow prices to be directly delivered to end-user devices (an approach commonly known as 'prices to devices'); or

"(bb) advance device visibility in grid system operations;

"(II) for demonstration projects described in subclause (II) of clause (i), projects that address valuation of ancillary services, capacity, and services offered in price-responsive markets;

"(III) for demonstration projects described in subclause (III) of clause (i), projects that assess—

"(aa) the impact of the rates described in that subclause on customer electricity consumption patterns;

"(bb) customer interest and enrollment in the new rates;

"(cc) the impact of rates on the economics of distributed generation and storage;

"(dd) the impact of rates on consumer adoption patterns of distributed generation and storage; or

"(ee) the effectiveness of various educational outreach measures in presenting the rates to customers;

"(IV) for demonstration projects described in subclause (IV) of clause (i), projects that—

"(aa) investigate the effects on customer participation and satisfaction rates of—

"(AA) choice architecture, such as defaulting to

an opt-in, versus an opt-out, program; and

"(BB) enabling technology; or

"(bb) demonstrate how the lessons learned from the study described in that subclause can be used to develop a rate transition plan that facilitates significant and lasting enrollment in the new rates with a high degree of customer satisfaction;

"(V) for demonstration projects described in subclause (V) of clause (i), projects that maximize—

"(aa) benefits to intermittent renewable energy generation; and

"(bb) the range of grid services provided by storage; and

"(VI) for demonstration projects described in subclause (VI) of clause (i), projects that demonstrate methods of—

''(aa) maximizing the grid services provided by electric vehicles; and

''(bb) minimizing load spikes and grid costs associated with electric vehicles.'';

(iv) in subparagraph (C) (as redesignated by clause (ii))—

(I) by striking ''subparagraph (A) shall be carried out'' and inserting the following: ''subparagraph (A) or (B) shall be—

''(i) carried out'';

(II) by striking the period at the end and inserting ''; and''; and

(III) by adding at the end the following:

''(ii) given priority in selection for assistance based on the extent to which the project demonstrates strong collaboration among—

''(I) State energy agencies;

''(II) State public utility and public service commissions;

''(III) electric utilities;

''(IV) power aggregators; and

''(V) if applicable, independent system operators, regional transmission organizations, or wholesale market operators.'';

(v) in subparagraph (D) (as redesignated by clause (ii)), by striking ''subparagraph (B)'' and inserting ''subparagraph (C)'';

(vi) in subparagraph (E) (as redesignated by clause (ii)), by striking the subparagraph designation and heading and all that follows through ''No person'' and inserting the following:

''(E) ELIGIBILITY FOR OTHER FUNDING.—

''(i) IN GENERAL.—A person or entity that receives financial assistance for a demonstration project in any program area described in subparagraph (A) or any of subclauses (I) through (VII) of subparagraph (B)(i) may be eligible to receive assistance under any other such program area, if the person or entity establishes to the satisfaction of the Secretary a synergy between the program areas.

''(ii) INELIGIBILITY.—No person''; and

(vii) in subparagraph (F) (as redesignated by clause (ii))—

(I) in the first sentence, by striking ''The Secretary'' and inserting the following:

''(i) ESTABLISHMENT OF CLEARINGHOUSE.—The Secretary'';

(II) by striking the second sentence and inserting the following:

''(ii) PROVISION OF INFORMATION.—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 and for purposes of producing the reports described in subclauses (IV) and (V) of clause (iv), in such form and at such time as the Secretary may require.'';

(III) in the third sentence, by striking ''The Secretary shall assure'' and inserting the following:

''(iii) PROTECTED INFORMATION.—The Secretary shall ensure''; and

(IV) by adding at the end the following:

''(iv) WORKING GROUPS.—

''(I) ESTABLISHMENT.—For each program area described in subparagraph (A) or any of subclauses (I) through (VII) of subparagraph (B)(i), the Secretary shall establish a working group, to be composed of representatives of each project selected to receive assistance within that program area.

''(II) MEETINGS.—Each working group established under subclause (I) shall meet not less frequently than once every 90 days.

''(III) PARTICIPATION REQUIRED.—As a condition of receiving financial assistance under this subsection, the owner or operator of a

demonstration project shall designate a representative of the project to serve as a member of the applicable working group established under subclause (I), including by attending each meeting of the working group under subclause (II).

''(IV) REPORTS.—Each working group established under subclause (I) shall submit to the Secretary reports regarding the demonstrations projects carried out by members of the working group, at such times and containing such information as the Secretary may require.

''(V) PUBLICATION.—The Secretary shall periodically publish reports and other appropriate informational materials for use, within each program area described in subclause (I), by—

''(aa) State regulators;

''(bb) wholesale market operators;

''(cc) electric utilities; and

''(dd) such other individuals and entities as the Secretary determines to be appropriate.''; and

(2) by striking subsection (c) and inserting the following:

''(c) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated such sums as are necessary to carry out this section for each of fiscal years 2017 through 2021.''.

SEC. 4. FEDERAL MATCHING FUND FOR SMART GRID INVESTMENT COSTS.

Section 1306(f) of the Energy Independence and Security Act of 2007 (42 U.S.C. 17386(f)) is amended by striking ''fiscal years 2008 through 2012'' and inserting ''each of fiscal years 2017 through 2021''.

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