115TH CONGRESS
1ST SESSION

S. 1180

To advance the integration of clean distributed energy into electric grids, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 18, 2017

Mrs. SHAHEEN 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 advance the integration of clean distributed energy into electric grids, 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 ''Clean Energy Grid Act''.

SEC. 2. FINDINGS.

Congress finds that—

(1) research by the Secretary of Energy and the Administrator of the Environmental Protection Agency has found that clean distributed energy tech-

nologies can create important values for both the host facility and the electric grid operator;

(2) the values described in paragraph (1) can include, for the host facility—

(A) energy bill savings;

(B) additional revenue from offering ancillary services to the electric grid operator;

(C) increased electric reliability in the event of grid outages; and

(D) improved electric power quality;

(3) the values described in paragraph (1) can include, for the electric grid operator—

(A) avoiding the need for transmission and distribution upgrade investments;

(B) enhanced grid stability by providing reactive power;

(C) voltage and frequency stabilization; and

(D) more reliable and stable operation of the grid by providing dispatchable energy to the grid during periods of insufficient capacity or supply; and

(4) new advances in intelligent sensing and simulation and control technologies offer the potential to enhance the benefits of clean distributed genera-

tion to both the host facility and the electric grid operator from dynamic, adaptive, and anticipatory response to changing grid conditions.

SEC. 3. DEFINITIONS.

In this Act:

(1) ANCILLARY SERVICE.—The term ''ancillary service'' means those services necessary to support the transmission of electric power from seller to purchaser given the obligations of control areas and transmitting utilities within those control areas to maintain reliable operations of the interconnected transmission system.

(2) CLEAN DISTRIBUTED ENERGY.—The term ''clean distributed energy'' means energy technologies that are located on the customer site operating on the customer side of the electric meter and are interconnected with the electric grid.

(3) COMBINED HEAT AND POWER TECHNOLOGY.—The term ''combined heat and power technology'' means the generation of electric energy and heat in a single, integrated system that meets the efficiency criteria in clauses (ii) and (iii) of section 48(c)(3)(A) of the Internal Revenue Code of 1986, under which heat that is conventionally re-

jected is recovered and used to meet thermal energy requirements.

(4) ENERGY STORAGE.—The term ''energy storage'' means technologies that store electric energy and are able to discharge on demand to meet customer or grid needs for electric energy.

(5) FUEL CELL.—The term ''fuel cell'' means a device that produces electric energy directly from a chemical reaction.

(6) GRID.—The term ''grid'' means the electric grid that is composed of both distribution and transmission lines, and associated facilities, including substations, sensors, and operational controls.

(7) INTELLIGENCE.—The term ''intelligence'' means any devices or technologies that manifest adaptive, anticipatory, and dynamic optimization behavior.

(8) QUALIFIED WASTE HEAT RESOURCE.—

(A) IN GENERAL.—The term ''qualified waste heat resource'' means—

(i) exhaust heat or flared gas from any industrial process;

(ii) waste gas or industrial tail gas that would otherwise be flared, incinerated, or vented;

(iii) a pressure drop in any gas for an industrial or commercial process; or

(iv) any other form of waste heat resource, as determined by the Secretary.

(B) EXCLUSION.—The term ''qualified waste heat resource'' does not include a heat resource from a process the primary purpose of which is the generation of electricity using a fossil fuel.

(9) SECRETARY.—The term ''Secretary'' means the Secretary of Energy.

(10) WASTE HEAT TO POWER TECHNOLOGY.—The term ''waste heat to power technology'' means a system that generates electricity through the recovery of a qualified waste heat resource.

SEC. 4. RESEARCH AND DEPLOYMENT PLAN FOR ENHANCED INTEGRATION OF CLEAN DISTRIBUTED ENERGY WITH THE GRID.

(a) IN GENERAL.—The Secretary shall carry out efforts for advancing the integration of clean distributed energy into electric grids.

(b) STUDY AND REPORT ON THE STATUS OF GRID INTEGRATION.—

(1) IN GENERAL.—Not later than 180 days after the date of enactment of this Act, the Sec-

retary, after consultation with State public utility commissions, State energy offices, regional transmission organizations, electric and natural gas utilities, independent power producers, clean distributed energy providers, public interest organizations, and other appropriate stakeholders, shall conduct a study on the status of integration of clean distributed energy into the grid, identifying any issues that require additional research or regulatory development.

(2) INCLUSIONS.—In conducting the study under paragraph (1), the Secretary shall—

(A) identify and quantify the benefits to all stakeholders of expanded integration of clean distributed energy resources into the grid;

(B) identify any technical issues that require research to identify solutions; and

(C) identify any regulatory barriers that inhibit the expanded integration of clean distributed energy resources into the grid.

(3) REPORT.—Not later than 1 year after the date of enactment of this Act, the Secretary shall submit to Congress a report describing the results of the study conducted under paragraph (1).

(4) FUNDING.—The Secretary shall use unobligated funds of the Department of Energy to carry out this subsection.

(c) RESEARCH INTO THE TECHNICAL BARRIERS TO THE INTEGRATION OF CLEAN DISTRIBUTED ENERGY WITH THE GRID.—

(1) IN GENERAL.—Not later than 18 months after the date of enactment of this Act, the Secretary shall—

(A) issue a solicitation for research proposals to address the technical barriers identified in the report submitted under subsection (b)(3); and

(B) make grants to those applicants with research proposals selected by the Secretary in accordance with paragraph (2).

(2) CRITERIA.—The Secretary shall select research proposals to receive a grant under this subsection on the basis of merit, using criteria identified by the Secretary, including the likelihood that the research results will address critical barriers identified by the Secretary.

(3) FUNDING.—Beginning in the first full fiscal year following the date of enactment of this Act, and annually thereafter for 2 years, the Secretary may

request funding as necessary to carry out this subsection, but in no case shall funding exceed $5,000,000 in any 1 fiscal year.

(d) CREATION OF A STAKEHOLDER WORKING GROUP.—

(1) IN GENERAL.—Not later than 18 months after the date of enactment of this Act, the Secretary shall convene a working group (referred to in this subsection as the ''Group'') to address regulatory barriers to deployment of intelligent grid integration of clean distributed energy technologies.

(2) PURPOSE.—The purpose of the Group is to provide guidance on how to address the technical, regulatory and economic factors that limit widespread integration of grid-level clean distributed energy use in order to advance the integration of clean distributed energy into electric grids.

(3) MEMBERSHIP.—

(A) IN GENERAL.—The Group shall be composed of representatives of all groups determined by the Secretary to have a material interest in the development, implementation, siting, and integration of clean distributed energy technology or systems into the electric grid.

(B) CRITERIA.—Members shall be selected—

(i) from representatives that apply as a result of a public announcement from the Secretary; and

(ii) by the Secretary based on qualifications and balance of interests represented by the selected individuals.

(4) DUTIES.—The duties of the Group shall be—

(A) to review the regulatory barriers identified in the report prepared by the Secretary under subsection (b)(3);

(B) to identify any additional regulatory barriers that inhibit the installation of distributed energy; and

(C) to recommend to the Secretary any actions that should be undertaken to remove these barriers.

(5) REPORT.—Not later than 3 years after the date of enactment of this Act, the Secretary shall prepare and submit to Congress a report based on the recommendations of the Group under paragraph (4)(C), to be made publicly available.

(6) FUNDING.—The Secretary may request funding as necessary to carry out this subsection, but in no case shall funding exceed $2,000,000 in any 1 fiscal year.

(e) DEMONSTRATIONS OF INTELLIGENT GRID INTEGRATION OF CLEAN DISTRIBUTED ENERGY SYSTEMS.—

(1) IN GENERAL.—Based on the findings in the reports conducted under this section and not later than 3 years after the date of enactment of this Act, the Secretary shall issue a solicitation for demonstration of integration of distributed energy resources into the grid.

(2) ELIGIBLE ENTITIES.—Any individual entity or group of entities may submit to the Secretary proposals for demonstration projects based on the solicitation described in paragraph (1), including—

(A) State and local agencies;

(B) public institutions;

(C) private companies;

(D) electric and natural gas utilities; and

(E) equipment manufacturers.

(3) GRANTS AUTHORIZED.—The Secretary may make grants, in amounts not to exceed a total of $5,000,000, to eligible entities to carry out demonstration projects, to be selected based on—

(A) the technical merits of the demonstration project;

(B) the likelihood that the demonstration project will address critical barriers identified by the Secretary under this section; and

(C) the share of non-Federal funds for the demonstration project.

(4) FUNDING.—Beginning in the third full fiscal year following the date of enactment of this Act, and annually thereafter for 3 years, the Secretary may request funding as necessary to carry out this subsection, but in no case shall funding exceed $15,000,000 in any 1 fiscal year.

(f) REPORT.—The Secretary annually shall submit to Congress a report that—

(1) describes the progress made in carrying out this section; and

(2) identifies any technical or regulatory issues that require legislative action.

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