

- (1) comments to identify grid modernization technology needs;
- (2) an assessment of the progress of the research activities on grid modernization; and
- (3) assistance in annually updating grid modernization technology roadmaps.

(Pub. L. 110-140, title XIII, §1311, as added Pub. L. 116-260, div. Z, title VIII, §8005, Dec. 27, 2020, 134 Stat. 2585.)

§ 17389. Technology demonstration on the distribution grid

(a) In general

The Secretary shall establish a grant program to carry out eligible projects related to the modernization of the electric grid, including the application of technologies to improve observability, advanced controls, and prediction of system performance on the distribution system.

(b) Eligible projects

To be eligible for a grant under subsection (a), a project shall—

- (1) be designed to improve the performance and efficiency of the future electric grid, while ensuring the continued provision of safe, secure, reliable, and affordable power; and
- (2) demonstrate—
 - (A) secure integration and management of two or more energy resources, including distributed energy generation, combined heat and power, micro-grids, energy storage, electric vehicles, energy efficiency, demand response, and intelligent loads; and
 - (B) secure integration and interoperability of communications and information technologies.

(Pub. L. 116-260, div. Z, title VIII, §8007, Dec. 27, 2020, 134 Stat. 2586.)

CODIFICATION

Section was enacted as part of the Energy Act of 2020, and not as part of the Energy Independence and Security Act of 2007 which comprises this chapter.

APPLICATION

Provisions of section 3212 of this title applicable to construction, alteration, or repair work of demonstration projects funded by grants or contracts authorized under this section, see section 9006(b) of div. Z of Pub. L. 116-260, set out as a note under section 16237 of this title.

§ 17390. Voluntary model pathways

(a) Establishment of voluntary model pathways

(1) Establishment

Not later than 90 days after December 27, 2020, the Secretary of Energy (in this section referred to as the “Secretary”), in consultation with the steering committee established under paragraph (3), shall initiate the development of voluntary model pathways for modernizing the electric grid through a collaborative, public-private effort that—

- (A) produces illustrative policy pathways encompassing a diverse range of technologies that can be adapted for State and regional applications by regulators and policymakers;
- (B) facilitates the modernization of the electric grid and associated communications

networks to achieve the objectives described in paragraph (2);

- (C) ensures a reliable, resilient, affordable, safe, and secure electric grid; and
- (D) acknowledges and accounts for different priorities, electric systems, and rate structures across States and regions.

(2) Objectives

The pathways established under paragraph (1) shall facilitate achievement of as many of the following objectives as practicable:

- (A) Near real-time situational awareness of the electric system.
- (B) Data visualization.
- (C) Advanced monitoring and control of the advanced electric grid.
- (D) Enhanced certainty of policies for investment in the electric grid.
- (E) Increased innovation.
- (F) Greater consumer empowerment.
- (G) Enhanced grid resilience, reliability, and robustness.
- (H) Improved—
 - (i) integration of distributed energy resources;
 - (ii) interoperability of the electric system; and
 - (iii) predictive modeling and capacity forecasting.
- (I) Reduced cost of service for consumers.
- (J) Diversification of generation sources.

(3) Steering committee

Not later than 90 days after December 27, 2020, the Secretary shall establish a steering committee to help develop the pathways under paragraph (1), to be composed of members appointed by the Secretary, consisting of persons with appropriate expertise representing a diverse range of interests in the public, private, and academic sectors, including representatives of—

- (A) the Federal Energy Regulatory Commission;
- (B) the National Laboratories;
- (C) States;
- (D) State regulatory authorities;
- (E) transmission organizations;
- (F) representatives of all sectors of the electric power industry;
- (G) institutions of higher education;
- (H) independent research institutes; and
- (I) other entities.

(b) Technical assistance

The Secretary may provide technical assistance to States, Indian Tribes, or units of local government to adopt or implement one or more elements of the pathways developed under subsection (a)(1), including on a pilot basis.

(Pub. L. 116-260, div. Z, title VIII, §8008, Dec. 27, 2020, 134 Stat. 2586.)

CODIFICATION

Section was enacted as part of the Energy Act of 2020, and not as part of the Energy Independence and Security Act of 2007 which comprises this chapter.

§ 17391. Voluntary state, regional, and local electricity distribution planning

(a) In general

On the request of a State, regional organization, or electric utility, the Secretary of Energy

shall provide assistance to States, regional organizations, and electric utilities to facilitate the development of State, regional, and local electricity distribution plans by—

- (1) conducting a resource assessment and analysis of future demand and distribution requirements; and
- (2) developing open source tools for State, regional, and local planning and operations.

(b) Risk and security analysis

The assessment under subsection (a)(1) shall include—

- (1) the evaluation of the physical security, cybersecurity, and associated communications needs of an advanced distribution management system and the integration of distributed energy resources; and
- (2) advanced use of grid architecture to analyze risks in an all-hazards approach that includes communications infrastructure, control systems architecture, and power systems architecture.

(c) Designation

The information collected for the assessment and analysis under subsection (a)(1)—

- (1) shall be considered to be critical electric infrastructure information under section 8240-1 of title 16; and
- (2) shall only be released in compliance with regulations implementing that section.

(d) Technical assistance

For the purpose of assisting in the development of State and regional electricity distribution plans, the Secretary shall provide technical assistance to—

- (1) States;
- (2) regional reliability entities; and
- (3) other distribution asset owners and operators.

(e) Withdrawal

A State or any entity that has requested technical assistance under this section may withdraw the request for technical assistance at any time, and on such withdrawal, the Secretary shall terminate all assistance efforts.

(f) Effect

Nothing in this section authorizes the Secretary to require any State, regional organization, regional reliability entity, asset owner, or asset operator to adopt any model, tool, plan, analysis, or assessment.

(Pub. L. 116-260, div. Z, title VIII, §8010, Dec. 27, 2020, 134 Stat. 2588.)

CODIFICATION

Section was enacted as part of the Energy Act of 2020, and not as part of the Energy Independence and Security Act of 2007 which comprises this chapter.

§ 17392. Micro-grid and integrated micro-grid systems program

(a) Definitions

In this section:

(1) Integrated micro-grid system

The term “integrated micro-grid system” means a micro-grid system that—

(A) comprises generation from both conventional and renewable energy resources; and

(B) may use grid-scale energy storage.

(2) Isolated community

The term “isolated community” means a community that is powered by a stand-alone electric generation and distribution system without the economic and reliability benefits of connection to a regional electric grid.

(3) Micro-grid system

The term “micro-grid system” means a localized grid that operates autonomously, regardless of whether the grid can operate in connection with another grid.

(4) Rural electric cooperative

The term “rural electric cooperative” means an electric cooperative (as defined in section 796 of title 16) that sells electric energy to persons in rural areas.

(5) Strategy

The term “strategy” means the strategy developed pursuant to subsection (b)(2)(B).

(b) Program

(1) Establishment

The Secretary of Energy (in this section referred to as the “Secretary”) shall establish a program to promote the development of—

- (A) integrated micro-grid systems for isolated communities; and
- (B) micro-grid systems to increase the resilience of critical infrastructure.

(2) Requirements

The program established under paragraph (1) shall—

- (A) develop a feasibility assessment for—
 - (i) integrated micro-grid systems in isolated communities; and
 - (ii) micro-grid systems to enhance the resilience of critical infrastructure;

(B) develop an implementation strategy, in accordance with paragraph (3), to promote the development of integrated micro-grid systems for isolated communities, particularly for those communities exposed to extreme weather conditions and high energy costs, including electricity, space heating and cooling, and transportation;

(C) develop an implementation strategy to promote the development of micro-grid systems that increase the resilience of critical infrastructure; and

(D) carry out cost-shared demonstration projects, based upon the strategies developed under subparagraph (B) that include the development of physical and cybersecurity plans to take appropriate measures to protect and secure the electric grid.

(3) Requirements for strategy

In developing the strategy under paragraph (2)(B), the Secretary shall consider—

- (A) opportunities for improving the efficiency of existing integrated micro-grid systems;
- (B) the capacity of the local workforce to operate, maintain, and repair a integrated