

2018—Pub. L. 115–232, div. A, title X, §1081(c)(6), Aug. 13, 2018, 132 Stat. 1985, made technical amendment to directory language of Pub. L. 115–91, §2831(b), effective as of Dec. 12, 2017, and as if included in Pub. L. 115–91 as enacted. See 2017 Amendment note below.

2017—Pub. L. 115–91, div. B, title XXVIII, §2831(b), Dec. 12, 2017, 131 Stat. 1857, as amended by Pub. L. 115–232, div. A, title X, §1081(c)(6), Aug. 13, 2018, 132 Stat. 1985, which directed amendment of the analysis at the beginning of this chapter by adding item 2911 and striking out former item 2911 “Energy performance goals and master plan for the Department of Defense”, was executed in the analysis for this subchapter to reflect the probable intent of Congress.

2016—Pub. L. 114–328, div. B, title XXVIII, §2805(a)(2), Dec. 23, 2016, 130 Stat. 2714, which directed amendment of the analysis at the beginning of this chapter by adding item 2914 and striking out former item 2914 “Energy conservation construction projects”, was executed in the analysis for this subchapter to reflect the probable intent of Congress.

2011—Pub. L. 111–383, div. B, title XXVIII, §2832(c)(2), Jan. 7, 2011, 124 Stat. 4470, added items 2911 and 2915 and struck out former items 2911 “Energy performance goals and plan for Department of Defense” and 2915 “New construction: use of renewable forms of energy and energy efficient products”.

2009—Pub. L. 111–84, div. B, title XXVIII, §2843(b), Oct. 28, 2009, 123 Stat. 2682, added item 2919.

§ 2911. Energy policy of the Department of Defense

(a) GENERAL ENERGY POLICY.—The Secretary of Defense shall ensure the readiness of the armed forces for their military missions by pursuing energy security and energy resilience.

(b) AUTHORITIES.—In order to achieve the policy set forth in subsection (a), the Secretary of Defense may—

(1) establish metrics and standards for the assessment of energy resilience;

(2) require the Secretary of a military department to perform mission assurance and readiness assessments of energy power systems for mission critical assets and supporting infrastructure, applying uniform mission standards established by the Secretary of Defense;

(3) require the Secretary of a military department to establish and maintain an energy resilience master plan for an installation;

(4) authorize the use of energy security and energy resilience, including the benefits of on-site generation resources that reduce or avoid the cost of backup power, as factors in the cost-benefit analysis for procurement of energy; and

(5) in selecting facility energy projects that will use renewable energy sources, pursue energy security and energy resilience by giving favorable consideration to projects that provide power directly to a military facility or into the installation electrical distribution network.

(c) ENERGY PERFORMANCE GOALS.—(1) The Secretary of Defense shall submit to the congressional defense committees the energy performance goals for the Department of Defense regarding transportation systems, support systems, utilities, and infrastructure and facilities.

(2) The energy performance goals shall be submitted annually not later than the date on which the President submits to Congress the

budget for the next fiscal year under section 1105 of title 31 and cover that fiscal year as well as the next five, 10, and 20 years. The Secretary shall identify changes to the energy performance goals since the previous submission.

(3) The Secretary of Defense shall include the energy security and resilience goals of the Department of Defense in the report submitted under section 2925(a) of this title for fiscal year 2018 and every fiscal year thereafter. In the development of energy security and resilience goals, the Department of Defense shall conform with the definitions of energy security and resilience under this title. The report shall include the amount of critical energy load, together with the level of availability and reliability by fiscal year the Department of Defense deems necessary to achieve energy security and resilience.

(d) ENERGY PERFORMANCE MASTER PLAN.—(1) The Secretary of Defense shall develop a comprehensive master plan for the achievement of the energy performance goals of the Department of Defense, as set forth in laws, executive orders, and Department of Defense policies.

(2) The master plan shall include the following:

(A) A separate master plan, developed by each military department and Defense Agency, for the achievement of energy performance goals.

(B) The use of a baseline standard for the measurement of energy consumption by transportation systems, support systems, utilities, and facilities and infrastructure that is consistent for all of the military departments.

(C) A method of measurement of reductions or conservation in energy consumption that provides for the taking into account of changes in the current size of fleets, number of facilities, and overall square footage of facility plants.

(D) Metrics to track annual progress in meeting energy performance goals.

(E) A description of specific requirements, and proposed investments, in connection with the achievement of energy performance goals reflected in the budget of the President for each fiscal year (as submitted to Congress under section 1105(a) of title 31).

(F) The up-to date list of energy-efficient products maintained under section 2915(e)(2) of this title.

(3) Not later than 30 days after the date on which the budget of the President is submitted to Congress for a fiscal year under section 1105(a) of title 31, the Secretary shall submit the current version of the master plan to Congress.

(e) SPECIAL CONSIDERATIONS.—For the purpose of developing and implementing the energy performance goals and energy performance master plan, the Secretary of Defense shall consider at a minimum the following:

(1) Opportunities to reduce the current rate of consumption of energy, the future demand for energy, and the requirement for the use of energy.

(2) Opportunities to enhance energy resilience to ensure the Department of Defense has the ability to prepare for and recover from energy disruptions that affect mission assurance on military installations.

(3) Opportunities to implement conservation measures to improve the efficient use of energy.

(4) Opportunities to pursue alternative energy initiatives, including the use of alternative fuels and hybrid-electric drive in military vehicles and equipment.

(5) Opportunities for the high-performance construction, lease, operation, and maintenance of buildings.

(6) Cost effectiveness, cost savings, and net present value of alternatives.

(7) The value of diversification of types and sources of energy used.

(8) The value of economies-of-scale associated with fewer energy types used.

(9) The value of the use of renewable energy sources.

(10) The value of incorporating electric, hybrid-electric, and high efficiency vehicles into vehicle fleets.

(11) The potential for an action to serve as an incentive for members of the armed forces and civilian personnel to reduce energy consumption or adopt an improved energy performance measure.

(12) Opportunities for improving energy security for facility energy projects that will use renewable energy sources.

(13) Opportunities to leverage financing provided by a non-Department entity to address installation energy needs.

(14) The reliability and security of energy resources in the event of a military conflict.

(15) The value of resourcing energy from partners and allies of the United States.

(f) **SELECTION OF ENERGY CONSERVATION MEASURES.**—For the purpose of implementing the energy performance master plan, the Secretary of Defense shall provide that the selection of energy conservation measures, including energy efficient maintenance, shall be limited to those measures that—

(1) are readily available;

(2) demonstrate an economic return on the investment;

(3) are consistent with the energy performance goals and energy performance master plan for the Department; and

(4) are supported by the special considerations specified in subsection (c).

(g) **GOAL REGARDING USE OF RENEWABLE ENERGY TO MEET FACILITY ENERGY NEEDS.**—(1) It shall be the goal of the Department of Defense—

(A) to produce or procure not less than 25 percent of the total quantity of facility energy it consumes within its facilities during fiscal year 2025 and each fiscal year thereafter from renewable energy sources; and

(B) to produce or procure facility energy from renewable energy sources whenever the use of such renewable energy sources is consistent with the energy performance goals and energy performance master plan for the Department and supported by the special considerations specified in subsection (c).

(2) To help ensure that the goal specified in paragraph (1)(A) regarding the use of renewable energy by the Department of Defense is achieved, the Secretary of Defense shall estab-

lish an interim goal for fiscal year 2018 for the production or procurement of facility energy from renewable energy sources.

(3)(A) The Secretary of Defense shall establish a policy to maximize savings for the bulk purchase of replacement renewable energy certificates in connection with the development of facility energy projects using renewable energy sources.

(B) Under the policy required by subparagraph (A), the Secretary of a military department shall submit requests for the purchase of replacement renewable energy certificates to a centralized purchasing authority maintained by such department or the Defense Logistics Agency with expertise regarding—

(i) the market for renewable energy certificates;

(ii) the procurement of renewable energy certificates; and

(iii) obtaining the best value for the military department by maximizing the purchase of renewable energy certificates from projects placed into service before January 1, 1999.

(C) The centralized purchasing authority shall solicit industry for the most competitive offer for replacement renewable energy certificates, to include a combination of renewable energy certificates from new projects and projects placed into service before January 1, 1999.

(D) Subparagraph (B) does not prohibit the Secretary of a military department from entering into an agreement outside of the centralized purchasing authority if the Secretary will obtain the best value by bundling the renewable energy certificates with the facility energy project through a power purchase agreement or other contractual mechanism at the installation.

(E) Nothing in this paragraph shall be construed to authorize the purchase of renewable energy certificates to meet Federal goals or mandates in the absence of the development of a facility energy project using renewable energy sources.

(F) This policy does not make the purchase of renewable energy certificates mandatory, but the policy shall apply whenever original renewable energy certificates are proposed to be swapped for replacement renewable energy certificates.

(h) **PROMOTION OF ON-SITE ENERGY SECURITY AND ENERGY RESILIENCE.**—(1) Consistent with the energy security and resilience goals of the Department of Defense and the energy performance master plan referred to in this section, the Secretary concerned shall consider, when feasible, projects for the production of installation energy that benefits military readiness and promotes installation energy security and energy resilience in the following manner:

(A) Location of the energy-production infrastructure on the military installation that will consume the energy.

(B) Incorporation of energy resilience features, such as microgrids, to ensure that energy remains available to the installation even when the installation is not connected to energy sources located off the installation.

(C) Reduction in periodic refueling needs from sources off the installation to not more than once every two years.

(2)(A) Using amounts made available for military construction projects under section 2914 of this title, the Secretary of Defense shall carry out at least four projects to promote installation energy security and energy resilience in the manner described in paragraph (1).

(B) At least one project shall be designed to develop technology that demonstrates the ability to connect an existing on-site energy generation facility that uses solar power with one or more installation facilities performing critical missions in a manner that allows the generation facility to continue to provide electrical power to these facilities even if the installation is disconnected from the commercial power supply.

(C) At least one project shall be designed to develop technology that demonstrates that one or more installation facilities performing critical missions can be isolated, for purposes of electrical power supply, from the remainder of the installation and from the commercial power supply in a manner that allows an on-site energy generation facility that uses a renewable energy source, other than solar energy, to provide the necessary power exclusively to these facilities.

(D) At least two projects shall be designed to develop technology that demonstrates the ability to store sufficient electrical energy from an on-site energy generation facility that uses a renewable energy source to provide the electrical energy required to continue operation of installation facilities performing critical missions during nighttime operations.

(E) The authority of the Secretary of Defense to commence a project under this paragraph expires on September 30, 2025.

(3) In this subsection, the term “microgrid” means an integrated energy system consisting of interconnected loads and energy resources that, if necessary, can be removed from the local utility grid and function as an integrated, stand-alone system.

(i) **ASSESSMENT OF LIFE-CYCLE COSTS AND PERFORMANCE OF POTENTIAL ENERGY RESILIENCE PROJECTS.**—(1) Subject to the availability of appropriations, the Secretary of Defense shall develop and institute a process to ensure that the Department of Defense, when evaluating energy resilience measures, uses analytical tools that are accurate and effective in projecting the costs and performance of such measures.

(2) Analytical tools used under paragraph (1) shall be—

(A) designed to—

(i) provide an accurate projection of the costs and performance of the energy resilience measure being analyzed;

(ii) be used without specialized training; and

(iii) produce resulting data that is understandable and usable by the typical source selection official;

(B) consistent with standards and analytical tools commonly applied by the Department of Energy and by commercial industry;

(C) adaptable to accommodate a rapidly changing technological environment;

(D) peer reviewed for quality and precision and measured against the highest level of development for such tools; and

(E) periodically reviewed and updated, but not less frequently than once every three years.

(j) **AGGREGATE ENERGY CONSERVATION MEASURES AND FUNDING.**—(1) To the maximum extent practicable, the Secretary concerned shall take a holistic view of the energy project opportunities on installations under the jurisdiction of such Secretary and shall consider aggregate energy conservation measures, including energy conservation measures with quick payback, with energy resilience enhancement projects and other projects that may have a longer payback period.

(2) In considering aggregate energy conservation measures under paragraph (1), the Secretary concerned shall incorporate all funding available to such Secretary for such measures, including—

(A) appropriated funds, such as—

(i) funds appropriated for the Energy Resilience and Conservation Investment Program of the Department; and

(ii) funds appropriated for the Facilities Sustainment, Restoration, and Modernization program of the Department; and

(B) funding available under performance contracts, such as energy savings performance contracts and utility energy service contracts.

(Added and amended Pub. L. 109-364, div. B, title XXVIII, §§ 2851(a)(1), 2852, Oct. 17, 2006, 120 Stat. 2489, 2496; Pub. L. 111-84, div. B, title XXVIII, § 2842, Oct. 28, 2009, 123 Stat. 2680; Pub. L. 111-383, div. B, title XXVIII, §§ 2831, 2832(a), Jan. 7, 2011, 124 Stat. 4467, 4468; Pub. L. 112-81, div. B, title XXVIII, §§ 2821(b)(1), 2822(b), 2823(a), 2824(a), 2825(b), Dec. 31, 2011, 125 Stat. 1691, 1692, 1694; Pub. L. 115-91, div. A, title III, § 312, div. B, title XXVIII, § 2831(a), Dec. 12, 2017, 131 Stat. 1348, 1857; Pub. L. 115-232, div. A, title III, § 312(a), (b), Aug. 13, 2018, 132 Stat. 1709, 1710; Pub. L. 116-92, div. A, title III, § 320(b), Dec. 20, 2019, 133 Stat. 1307; Pub. L. 116-283, div. B, title XXVIII, § 2825(a), (b)(1), Jan. 1, 2021, 134 Stat. 4333, 4334; Pub. L. 117-81, div. A, title III, § 314(a), Dec. 27, 2021, 135 Stat. 1629; Pub. L. 117-263, div. A, title III, §§ 315, 316, Dec. 23, 2022, 136 Stat. 2505; Pub. L. 118-159, div. A, title XVII, § 1701(a)(32), Dec. 23, 2024, 138 Stat. 2205.)

Editorial Notes

CODIFICATION

Section 312 of Pub. L. 115-91 amended subsec. (c) of this section, and section 2831(a)(2) and (4) of Pub. L. 115-91 respectively redesignated subsec. (c) as (e) and made amendments substantially identical to those made by section 312. Pub. L. 116-92 subsequently amended subsec. (e) to address the duplicate amendments. See 2019 and 2017 Amendment notes below.

AMENDMENTS

2024—Subsec. (c)(3). Pub. L. 118-159 struck out “installation energy” before “report submitted under section 2925(a) of this title”.

2022—Subsec. (e)(14), (15). Pub. L. 117-263, § 316, added pars. (14) and (15).

Subsec. (j). Pub. L. 117-263, § 315, added subsec. (j).

2021—Subsec. (h). Pub. L. 116-283, § 2825(a), added subsec. (h) containing pars. (1) and (3).

Subsec. (h)(2). Pub. L. 116-283, § 2825(b)(1), added par. (2).

Subsec. (i). Pub. L. 117–81 added subsec. (i).

2019—Subsec. (e)(1), (2). Pub. L. 116–92, § 320(b)(1), added pars. (1) and (2) and struck out former pars. (1) and (2) which read as follows:

“(1) Opportunities to reduce the current rate of consumption of energy, the future demand for energy, and the requirement for the use of energy.

“(2) Opportunities to enhance energy resilience to ensure the Department of Defense has the ability to prepare for and recover from energy disruptions that impact mission assurance on military installations.”

Subsec. (e)(13). Pub. L. 116–92, § 320(b)(2), which directed striking out “the second paragraph (13)”, was executed by striking out the par. (13) added by Pub. L. 115–91, § 2831(a)(4)(C), which read as follows: “Opportunities to leverage third-party financing to address installation energy needs.” See 2017 Amendment note below.

2018—Subsec. (b). Pub. L. 115–232, § 312(a), added pars. (1) and (2) and redesignated former pars. (1) to (3) as (3) to (5), respectively.

Subsec. (c)(3). Pub. L. 115–232, § 312(b), added par. (3).

2017—Pub. L. 115–91, § 2831(a)(1), substituted “policy of” for “performance goals and master plan for” in section catchline.

Subsecs. (a) to (d). Pub. L. 115–91, § 2831(a)(2), (3), added subsecs. (a) and (b) and redesignated former subsecs. (a) and (b) as (c) and (d), respectively. Former subsecs. (c) and (d) redesignated (e) and (f), respectively.

Subsec. (e). Pub. L. 115–91, § 2831(a)(2), redesignated subsec. (c) as (e). Former subsec. (e) redesignated (g).

Subsec. (e)(1). Pub. L. 115–91, §§ 312(1), 2831(a)(4)(A), amended par. (1) identically, inserting “, the future demand for energy, and the requirement for the use of energy” after “consumption of energy”. See Codification note above.

Subsec. (e)(2). Pub. L. 115–91, §§ 312(2), 2831(a)(4)(B), made similar amendments to par. (2), resulting in substitution of “enhance energy resilience to ensure the Department of Defense has the ability to prepare for and recover from energy disruptions that impact mission assurance on military installations” for “reduce the future demand and the requirements for the use of energy”. See Codification note above.

Subsec. (e)(13). Pub. L. 115–91, § 2831(a)(4)(C), added par. (13) which read “Opportunities to leverage third-party financing to address installation energy needs.” See Codification note above.

Pub. L. 115–91, § 312(3), added par. (13) which read “Opportunities to leverage financing provided by a non-Department entity to address installation energy needs.” See Codification note above.

Subsecs. (f), (g). Pub. L. 115–91, § 2831(a)(2), redesignated subsecs. (d) and (e) as (f) and (g), respectively.

2011—Pub. L. 111–383, § 2832(a)(3), substituted “Energy performance goals and master plan for the Department of Defense” for “Energy performance goals and plan for Department of Defense” in section catchline.

Pub. L. 111–383, § 2832(a)(2), substituted “master plan” for “plan” wherever appearing in subsecs. (c) to (e).

Subsec. (b). Pub. L. 111–383, § 2832(a)(1), amended subsec. (b) generally. Prior to amendment, text read as follows: “The Secretary of Defense shall develop, and update as necessary, a comprehensive plan to help achieve the energy performance goals for the Department of Defense.”

Subsec. (b)(2)(F). Pub. L. 112–81, § 2825(b), added subpar. (F).

Subsec. (c)(4). Pub. L. 111–383, § 2831(1), inserted “and hybrid-electric drive” after “alternative fuels”.

Subsec. (c)(5) to (11). Pub. L. 111–383, § 2831(2)–(5), added pars. (5) and (10) and redesignated former pars. (5) to (8) and (9) as (6) to (9) and (11), respectively.

Subsec. (c)(12). Pub. L. 112–81, § 2822(b), added par. (12).

Subsec. (d). Pub. L. 112–81, § 2821(b)(1)(A), struck out par. (1) designation, redesignated subpars. (A) to (D) as pars. (1) to (4), respectively, and struck out former par. (2), which defined “energy efficient maintenance”.

Subsec. (e)(2). Pub. L. 112–81, § 2823(a), added par. (2).

Pub. L. 112–81, § 2821(b)(1)(B), struck out par. (2), which defined “renewable energy source”.

Subsec. (e)(3). Pub. L. 112–81, § 2824(a), added par. (3).
2009—Subsec. (e). Pub. L. 111–84, § 2842(c), substituted “Facility Energy Needs” for “Electricity Needs” in heading.

Pub. L. 111–84, § 2842(a), (b), designated existing provisions as par. (1), redesignated former pars. (1) and (2) as subpars. (A) and (B), respectively, of par. (1), in par. (1)(A), substituted “facility energy” for “electric energy” and struck out “and in its activities” after “facilities” and “(as defined in section 203(b) of the Energy Policy Act of 2005 (42 U.S.C. 15852(b)))” after “sources”, in par. (1)(B), substituted “facility energy” for “electric energy”, and added par. (2).

2006—Subsec. (e). Pub. L. 109–364, § 2852, added subsec. (e).

Statutory Notes and Related Subsidiaries

TERMINATION OF REPORTING REQUIREMENTS

For termination, effective Dec. 31, 2021, of provisions in subsecs. (a) and (b)(3) of this section requiring submittal of annual reports to Congress, see section 1061 of Pub. L. 114–328, set out as a note under section 111 of this title.

PROTOTYPE AND DEMONSTRATION PROJECTS FOR ENERGY RESILIENCE AT CERTAIN MILITARY INSTALLATIONS

Pub. L. 117–263, div. A, title III, § 322, Dec. 23, 2022, 136 Stat. 2511, as amended by Pub. L. 118–31, div. A, title III, § 316(a), Dec. 22, 2023, 137 Stat. 217, provided that:

“(a) IN GENERAL.—Subject to the availability of appropriations for such purpose, each Secretary of a military department shall ensure that covered prototype and demonstration projects are conducted at each military installation under the jurisdiction of that Secretary that is designated by the Secretary of Defense as an ‘Energy Resilience Testbed’ pursuant to subsection (b).

“(b) SELECTION OF MILITARY INSTALLATIONS.—

“(1) NOMINATION.—Each Secretary of a military department shall nominate military installations under the jurisdiction of that Secretary for selection under paragraph (2), and submit to the Secretary of Defense a list of such nominations.

“(2) SELECTION.—Not later than one year after the date of the enactment of this Act [Dec. 23, 2022], the Secretary of Defense shall select, from among the lists of nominated military installations provided by the Secretaries of the military departments under paragraph (1), at least one such nominated military installation per military department for designation pursuant to paragraph (4).

“(3) CONSIDERATIONS.—In selecting military installations under paragraph (2), the Secretary of Defense shall, to the extent practicable, take into consideration the following:

“(A) The mission of the installation.

“(B) The geographic terrain of the installation and of the community surrounding the installation.

“(C) The energy resources available to support the installation.

“(D) An assessment of any extreme weather risks or vulnerabilities at the installation and the community surrounding the installation.

“(4) DESIGNATION AS ENERGY RESILIENCE TESTBED.—Each military installation selected under paragraph (2) shall be known as an ‘Energy Resilience Testbed’.

“(c) COVERED TECHNOLOGIES.—Covered prototype and demonstration projects conducted at military installations designated pursuant to subsection (b) shall include the prototype and demonstration of technologies in the following areas:

“(1) Energy storage technologies, including long-duration energy storage systems.

“(2) Technologies to improve building energy efficiency in a cyber-secure manner, such as advanced lighting controls, high-performance cooling systems, and technologies for waste heat recovery.

“(3) Technologies to improve building energy management and control in a cyber-secure manner.

“(4) Tools and processes for design, assessment, and decision making on the installation with respect to all hazards resilience and hazard analysis, energy use, management, and the construction of resilient buildings and infrastructure.

“(5) Carbon sequestration technologies.

“(6) Technologies relating to on-site resilient energy generation, including the following:

“(A) Advanced geothermal technologies.

“(B) Advanced nuclear technologies, including small modular reactors.

“(C) Hydrogen creation, storage, and power generation technologies using natural gas or renewable electricity.

“(7) Port electrification and surrounding defense community infrastructure.

“(8) Tidal and wave power technologies.

“(9) Distributed ledger technologies.

“(d) BRIEFING.—Not later than one year after the date of the enactment of this Act, the Secretary of Defense, in consultation with the Secretaries of the military departments, shall provide to the appropriate congressional committees a briefing on the conduct of covered prototype and demonstration projects at each military installation designated pursuant to subsection (b). Such briefing shall include the following:

“(1) An identification of each military installation so designated.

“(2) A justification as to why each military installation so designated was selected for such designation.

“(3) A strategy for commencing the conduct of such projects at each military installation so designated by not later than one year after the date of the enactment of this Act.

“(e) DEADLINE FOR COMMENCEMENT OF PROJECTS.—Beginning not later than one year after the date of the enactment of this Act, covered prototype and demonstration projects shall be conducted at, and such conduct shall be incorporated into the mission of, each military installation designated pursuant to subsection (b).

“(f) RESPONSIBILITY FOR ADMINISTRATION AND OVERSIGHT.—Notwithstanding the responsibility of the Secretary of Defense to select each military installation for designation pursuant to subsection (b)(2), the administration and oversight of the conduct of covered prototype and demonstration projects at a military installation so designated, as required under subsection (a), shall be the responsibility of the Secretary of the military department with jurisdiction over that military installation.

“(g) CONSORTIUMS.—

“(1) IN GENERAL.—Each Secretary of a military department may enter into a partnership with, or seek to establish, a consortium of industry, academia, and other entities described in paragraph (2) to conduct covered prototype and demonstration projects at a military installation that is under the jurisdiction of that Secretary and designated by the Secretary of Defense pursuant to subsection (b).

“(2) CONSORTIUM ENTITIES.—The entities described in this paragraph are as follows:

“(A) National laboratories.

“(B) Industry entities the primary work of which relates to technologies and business models relating to energy resilience and all hazards resilience.

“(h) AUTHORITIES.—

“(1) IN GENERAL.—Covered prototype and demonstration projects required under this section may be conducted as part of the program for operational energy prototyping established under section 324(c) of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283; 134 Stat. 3523; 10 U.S.C. 2911 note) (including by using funds available under the Operational Energy Prototyping Fund established pursuant to such section), using the other transactions authority

under section 4021 or 4022 of title 10, United States Code, or using any other available authority or funding source the Secretary of Defense determines appropriate.

“(2) FOLLOW-ON PRODUCTION CONTRACTS OR TRANSACTIONS.—Each Secretary of a military department shall ensure that, to the extent practicable, any transaction entered into under the other transactions authority under section 4022 of title 10, United States Code, for the conduct of a covered prototype and demonstration project under this section shall provide for the award of a follow-on production contract or transaction pursuant to subsection (f) of such section 4022.

“(i) INTERAGENCY COLLABORATION.—In carrying out this section, to the extent practicable, the Secretary of Defense shall collaborate with the Secretary of Energy and the heads of such other Federal departments and agencies as the Secretary of Defense may determine appropriate, including by entering into relevant memoranda of understanding.

“(j) RULE OF CONSTRUCTION.—Nothing in this section shall be construed as precluding any Secretary of a military department from carrying out any activity, including conducting a project or making an investment, relating to the improvement of energy resilience or all hazards resilience under an authority other than this section.

“(k) DEFINITIONS.—In this section:

“(1) The term ‘appropriate congressional committees’ means—

“(A) the Committee on Armed Services and the Committee on Energy and Commerce of the House of Representatives; and

“(B) the Committee on Armed Services and the Committee on Energy and Natural Resources of the Senate.

“(2) The term ‘community infrastructure’ has the meaning given that term in section 2391(e) of title 10, United States Code.

“(3) The term ‘covered prototype and demonstration project’ means a project to prototype and demonstrate advanced technologies to enhance energy resilience, including with respect to energy supply disruptions, and all hazards resilience at a military installation.

“(4) The term ‘military installation’ has the meaning given that term in section 2867 of title 10 [probably should be ‘section 2687 of title 10’], United States Code.”

[Pub. L. 118-31, div. A, title III, §316(b), Dec. 22, 2023, 137 Stat. 217, provided that: “The amendments made by subsection (a) [amending section 322 of Pub. L. 117-263, set out above] shall apply with respect to covered prototype and demonstration projects (as defined in section 322(k) of the James M. Inhofe National Defense Authorization Act for Fiscal Year 2023 (Public Law 117-263; 136 Stat. 2511; 10 U.S.C. 2911 note)) commencing on or after the date of the enactment of this Act [Dec. 22, 2023].”]

PILOT PROGRAM FOR DEVELOPMENT OF ELECTRIC VEHICLE CHARGING SOLUTIONS TO MITIGATE GRID STRESS

Pub. L. 117-263, div. A, title III, §323, Dec. 23, 2022, 136 Stat. 2513, provided that:

“(a) IN GENERAL.—The Secretary of Defense, in coordination with the Secretaries of the military departments, and in consultation with the Secretary of Energy, shall carry out a pilot program to develop and test covered infrastructure to mitigate grid stress caused by electric vehicles through the implementation and maintenance on certain military installations of charging stations, microgrids, and other covered infrastructure sufficient to cover the energy demand at such installations.

“(b) SELECTION OF MILITARY INSTALLATIONS.—

“(1) SELECTION.—Not later than 180 days after the date of the enactment of this Act [Dec. 23, 2022], each Secretary of a military department shall—

“(A) select at least one military installation of each Armed Force under the jurisdiction of that

Secretary at which to carry out the pilot program under subsection (a); and

“(B) submit to the Committees on Armed Services of the House of Representatives and the Senate a notification containing an identification of each such selected installation.

“(2) CONSIDERATIONS.—In choosing a military installation for selection pursuant to paragraph (1), each Secretary of a military department shall take into account the following:

“(A) A calculation of existing loads at the installation and the existing capacity of the installation for the charging of electric vehicles, including (as applicable) light duty trucks.

“(B) Any required upgrades to covered infrastructure on the installation, including electrical wiring, anticipated by the Secretary.

“(C) The ownership, financing, operation, and maintenance models of existing and planned covered infrastructure on the installation.

“(D) An assessment of local grid needs, and any required updates relating to such needs anticipated by the Secretary.

“(c) REPORT.—

“(1) IN GENERAL.—Not later than one year after the date on which a Secretary of a military department submits a notification identifying a selected military installation under subsection (b), that Secretary shall submit to the Committee on Armed Services and the Committee on Energy and Commerce of the House of Representatives and the Committee on Armed Services of the Senate a report on—

“(A) the covered infrastructure to be implemented under the pilot program at the installation;

“(B) the methodology by which each type of covered infrastructure so implemented shall be assessed for efficacy and efficiency at providing sufficient energy to cover the anticipated energy demand of the electric vehicle fleet at the installation and mitigating grid stress; and

“(C) the maintenance on the military installation of charging stations and other covered infrastructure, including a microgrid, that will be sufficient to—

“(i) cover the anticipated electricity demand of such fleet; and

“(ii) improve installation energy resilience.

“(2) ELEMENTS.—Each report under paragraph (1) shall include, with respect to the selected military installation for which the report is submitted, the following:

“(A) A determination of the type and number of charging stations to implement on the installation, taking into account the interoperability of chargers and the potential future needs or applications for chargers, such as vehicle-to-grid or vehicle-to-building applications.

“(B) A determination of the optimal ownership model to provide charging stations on the installation, taking into account the following:

“(i) Use of Government-owned (purchased, installed, and maintained) charging stations.

“(ii) Use of third-party financed, installed, operated, and maintained charging stations.

“(iii) Use of financing models in which energy and charging infrastructure operations and maintenance are treated as a service.

“(iv) Cyber and physical security considerations and best practices associated with different ownership, network, and control models.

“(C) A determination of the optimal power source to provide charging stations at the installation, taking into account the following:

“(i) Transformer and substation requirements.

“(ii) Microgrids and distributed energy to support both charging requirements and energy storage.

“(3) SOURCE OF SERVICES.—Each Secretary of a military department may use expertise within the military department or enter into a contract with a non-

Department of Defense entity to make the determinations specified in paragraph (2).

“(d) FINAL REPORT.—Not later than January 1, 2025, the Secretary of Defense shall submit to the congressional committees specified in subsection (c)(1) a final report on the pilot program under subsection (a). Such report shall include the observations and findings of the Department relating to the charging stations and other covered infrastructure implemented and maintained under such pilot program, including with respect to the elements specified in subsection (c)(2).

“(e) DEFINITIONS.—In this section:

“(1) The terms ‘Armed Forces’ and ‘military departments’ have the meanings given those terms in section 101 of title 10, United States Code.

“(2) The term ‘charging station’ means a collection of one or more electric vehicle supply equipment units serving the purpose of charging an electric vehicle battery.

“(3) The term ‘covered infrastructure’—

“(A) means infrastructure that the Secretary of Defense determines may be used to—

“(i) charge electric vehicles, including by transmitting electricity to such vehicles directly; or

“(ii) support the charging of electric vehicles, including by supporting the resilience of grids or other systems for delivering energy to such vehicles (such as through the mitigation of grid stress); and

“(B) includes—

“(i) charging stations;

“(ii) batteries;

“(iii) battery-swapping systems;

“(iv) microgrids;

“(v) off-grid charging systems; and

“(vi) other apparatuses installed for the specific purpose of delivering energy to an electric vehicle or to a battery intended to be used in an electric vehicle, including wireless charging technologies.

“(4) The term ‘electric vehicle’ includes—

“(A) a plug-in hybrid electric vehicle that uses a combination of electric and gas powered engine that can use either gasoline or electricity as a fuel source; and

“(B) a plug-in electric vehicle that runs solely on electricity and does not contain an internal combustion engine or gas tank.

“(5) The term ‘electric vehicle supply equipment unit’ means the port that supplies electricity to one vehicle at a time.

“(6) The term ‘microgrid’ means a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid.

“(7) The term ‘military installation’ has the meaning given that term in section 2801 of title 10, United States Code.

“(8) The term ‘wireless charging’ means the charging of a battery by inductive charging or by any means in which a battery is charged without a wire, or plug-in wire, connecting the power source and battery.”

ANALYSIS AND PLAN FOR ADDRESSING HEAT ISLAND EFFECT ON MILITARY INSTALLATIONS

Pub. L. 117-263, div. A, title III, §327, Dec. 23, 2022, 136 Stat. 2519, provided that:

“(a) INSTALLATION ANALYSIS.—Each Secretary of a military department shall conduct an analysis of the military installations under the jurisdiction of that Secretary to assess the extent to which heat islands affect readiness, infrastructure service life, and utilities costs. Each such analysis shall contain each of the following:

“(1) An analysis of how heat islands exacerbate summer heat conditions and necessitate the increased use of air conditioning on the installations, including an estimate of the cost of such increased usage with respect to both utilities costs and shortened service life of air conditioning units.

“(2) An assessment of any readiness effects related to heat islands, including the loss of training hours due to black flag conditions, and the corresponding cost of such effects.

“(b) PLAN.—Based on the results of the analyses conducted under subsection (a), the Secretaries of the military departments shall jointly—

“(1) develop a plan for mitigating the effects of heat islands at the most severely affected installations, including by increasing tree coverage, installing cool roofs or green roofs, and painting asphalt; and

“(2) promulgate best practices enterprise-wide for cost avoidance and reduction of the effects of heat islands.

“(c) BRIEFING.—Not later than September 30, 2024, the Secretaries of the military departments shall jointly provide to the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] a briefing on—

“(1) the findings of each analysis conducted under subsection (a);

“(2) the plan developed under subsection (b); and

“(3) such other matters as the Secretaries determine appropriate.

“(d) HEAT ISLAND DEFINED.—The term ‘heat island’ means an area with a high concentration of structures (such as building, roads, and other infrastructure) that absorb and re-emit the sun’s heat more than natural landscapes such as forests or bodies of water.”

COMBATING MILITARY RELIANCE ON RUSSIAN ENERGY

Pub. L. 117–263, div. A, title X, § 1086, Dec. 23, 2022, 136 Stat. 2801, as amended by Pub. L. 118–31, div. A, title XVIII, § 1803, Dec. 22, 2023, 137 Stat. 685; Pub. L. 118–159, div. A, title X, § 1082, Dec. 23, 2024, 138 Stat. 2077, provided that:

“(a) SENSE OF CONGRESS.—It is the sense of Congress that—

“(1) reliance on Russian energy poses a critical challenge for national security activities in the area of responsibility of the United States European Command; and

“(2) in order to reduce the vulnerability of United States military facilities to disruptions caused by reliance on Russian energy, the Department of Defense should establish and implement plans to reduce reliance on Russian energy for all operating bases in the area of responsibility of the United States European Command.

“(b) ELIMINATING USE OF RUSSIAN ENERGY.—It shall be the goal of the Department of Defense to eliminate the use of Russian energy on each operating base in the area of responsibility of the United States European Command by not later than five years after the date of the completion of an installation energy plan for such base, as required under this section.

“(c) INSTALLATION ENERGY PLANS FOR OPERATING BASES.—

“(1) IDENTIFICATION OF INSTALLATIONS.—The Secretary of Defense shall submit to the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] a list of operating bases within the area of responsibility of the United States European Command ranked according to mission criticality and vulnerability to energy disruption as follows:

“(A) In the case of a main operating base, by not later than June 1, 2023.

“(B) In the case of any operating base other than a main operating base, by not later than June 1, 2024.

“(2) SUBMITTAL OF PLANS.—

“(A) MAIN OPERATING BASES; FEASIBILITY ASSESSMENT.—Not later than December 23, 2023, the Secretary of Defense shall submit to the congressional defense committees—

“(i) an installation energy plan for each main operating base on the list submitted under paragraph (1)(A); and

“(ii) an assessment of the feasibility of reaching the goal for the elimination of the use of Russian energy pursuant to subsection (b) on that base, including—

“(I) a description of the steps that would be required to meet such goal; and

“(II) an analysis of the effects such steps would have on the national security of the United States.

“(B) US EUROPEAN COMMAND OPERATING BASES.—Not later than one year after the date of the enactment of the National Defense Authorization Act for Fiscal Year 2025 [Dec. 23, 2024], the Secretary of Defense shall submit to the congressional defense committees an installation energy plan for each operating base within the area of responsibility of the United States European Command.

“(d) CONTENT OF PLANS.—Each installation energy plan for an operating base shall include each of the following with respect to that base:

“(1) An assessment of the energy resilience requirements, resiliency gaps, and energy-related cybersecurity requirements of the base, including with respect to operational technology, control systems, and facilities-related control systems.

“(2) An identification of investments in technology required to improve energy resilience, reduce demand, strengthen energy conservation, and support mission readiness.

“(3) An identification of investments in infrastructure, including microgrids, required to strengthen energy resilience and mitigate risk due to grid disturbance.

“(4) Recommendations related to opportunities for the use of renewable energy, clean energy, nuclear energy, and energy storage projects to reduce dependence on natural gas.

“(5) An assessment of how the requirements and recommendations included pursuant to paragraphs (2) through (4) interact with the energy policies of the country where the base is located, both at present and into the future.

“(e) IMPLEMENTATION OF PLANS.—

“(1) DEADLINE FOR IMPLEMENTATION.—Not later than 30 days after the date on which the Secretary submits an installation energy plan for a base under subsection (c)(2), the Secretary shall—

“(A) begin implementing the plan; and

“(B) provide to the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] a briefing on the contents of the plan and the strategy of the Secretary for implementing the mitigation measures identified in the plan.

“(2) PRIORITIZATION OF CERTAIN PROJECTS.—In implementing an installation energy plan for a base under this section, the Secretary shall prioritize projects requested under section 2914 of title 10, United States Code, to mitigate assessed risks and improve energy resilience, energy security, and energy conservation at the base.

“(3) NONAPPLICATION OF CERTAIN OTHER AUTHORITIES.—Subsection (d) of section 2914 of title 10, United States Code, shall not apply with respect to any project carried out pursuant to this section or pursuant to an installation energy plan for a base under this section.

“(f) POLICY FOR FUTURE BASES.—The Secretary of Defense shall establish a policy to ensure that any new military base in the area of responsibility of the United States European Command is established in a manner that proactively includes the consideration of energy security, energy resilience, and mitigation of risk due to energy disruption.

“(g) ANNUAL CONGRESSIONAL BRIEFINGS.—The Secretary of Defense shall provide to the congressional defense committees annual briefings on the installation energy plans required under this section. Such briefings shall include an identification of each of the following:

“(1) The actions each operating base is taking to implement the installation energy plan for that base.

“(2) The progress that has been made toward reducing the reliance of United States bases on Russian energy.

“(3) The steps being taken and planned across the future-years defense program to meet the goal of eliminating reliance on Russian energy.

“(h) LIMITATION.—Of the funds authorized to be appropriated by the National Defense Authorization Act for Fiscal Year 2025 [Pub. L. 118–159, see Tables for classification] or otherwise made available for fiscal year 2025 for the Office of the Secretary of Defense for travel, not more than 75 percent may be obligated or expended until the submission of the installation energy plans and assessment required under subsection (c)(2)(A).

“(i) DEFINITION OF OPERATING BASE.—In this section, the term ‘operating base’ has the meaning of that term as used in the most recently submitted Global Defense Posture Report, as required to be submitted under section 113(g)(4)(A)(iii) of title 10, United States Code.”

ENERGY, WATER, AND WASTE NET-ZERO REQUIREMENT FOR MAJOR MILITARY INSTALLATIONS

Pub. L. 117–81, div. A, title III, §319(a), (d), Dec. 27, 2021, 135 Stat. 1633, 1634, provided that:

“(a) REQUIREMENT.—The Secretary of Defense shall improve military installation efficiency, performance, and management by ensuring that at least 10 percent of major military installations achieve energy net-zero and water or waste net-zero by fiscal year 2035.

“(d) MAJOR MILITARY INSTALLATION DEFINED.—In this section [enacting this note and provisions not set out in the Code], the term ‘major military installation’ has the meaning given to the term ‘large site’ in the most recent version of the Department of Defense Base Structure Report issued before the date of the enactment of this Act [Dec. 27, 2021].”

LONG-DURATION DEMONSTRATION INITIATIVE AND JOINT PROGRAM

Pub. L. 117–81, div. A, title III, §321, Dec. 27, 2021, 135 Stat. 1635, provided that:

“(a) ESTABLISHMENT OF INITIATIVE.—Not later than March 1, 2022, the Secretary of Defense shall establish a demonstration initiative composed of demonstration projects focused on the development of long-duration energy storage technologies.

“(b) SELECTION OF PROJECTS.—To the maximum extent practicable, in selecting demonstration projects to participate in the demonstration initiative under subsection (a), the Secretary of Defense shall—

“(1) ensure a range of technology types;

“(2) ensure regional diversity among projects; and

“(3) consider bulk power level, distribution power level, behind-the-meter, microgrid (grid-connected or islanded mode), and off-grid applications.

“(c) JOINT PROGRAM.—

“(1) ESTABLISHMENT.—As part of the demonstration initiative under subsection (a), the Secretary of Defense, in consultation with the Secretary of Energy, shall establish within the Department of Defense a joint program to carry out projects—

“(A) to demonstrate promising long-duration energy storage technologies at different scales to promote energy resiliency; and

“(B) to help new, innovative long-duration energy storage technologies become commercially viable.

“(2) MEMORANDUM OF UNDERSTANDING.—Not later than 180 days after the date of the enactment of this Act [Dec. 27, 2021], the Secretary of Defense shall enter into a memorandum of understanding with the Secretary of Energy to administer the joint program.

“(3) INFRASTRUCTURE.—In carrying out the joint program, the Secretary of Defense and the Secretary of Energy shall—

“(A) use existing test-bed infrastructure at—

“(i) installations of the Department of Defense; and

“(ii) facilities of the Department of Energy; and

“(B) develop new infrastructure for identified projects, if appropriate.

“(4) GOALS AND METRICS.—The Secretary of Defense and the Secretary of Energy shall develop goals and metrics for technological progress under the joint program consistent with energy resilience and energy security policies.

“(5) SELECTION OF PROJECTS.—

“(A) IN GENERAL.—To the maximum extent practicable, in selecting projects to participate in the joint program, the Secretary of Defense and the Secretary of Energy may—

“(i) ensure that projects are carried out under conditions that represent a variety of environments with different physical conditions and market constraints; and

“(ii) ensure an appropriate balance of—

“(I) larger, operationally-scaled projects, adapting commercially-proven technology that meets military service defined requirements; and

“(II) smaller, lower-cost projects.

“(B) PRIORITY.—In carrying out the joint program, the Secretary of Defense and the Secretary of Energy shall give priority to demonstration projects that—

“(i) make available to the public project information that will accelerate deployment of long-duration energy storage technologies that promote energy resiliency; and

“(ii) will be carried out as field demonstrations fully integrated into the installation grid at an operational scale.”

PILOT PROGRAM TO TEST NEW SOFTWARE TO TRACK EMISSIONS AT CERTAIN MILITARY INSTALLATIONS

Pub. L. 117–81, div. A, title III, §322, Dec. 27, 2021, 135 Stat. 1636, provided that:

“(a) IN GENERAL.—The Secretary of Defense may conduct a pilot program (to be known as the ‘Installations Emissions Tracking Program’) to evaluate the feasibility and effectiveness of software and emerging technologies and methodologies to track real-time emissions from military installations and installation assets.

“(b) GOALS.—The goals of the Installations Emissions Tracking Program shall be—

“(1) to evaluate the capabilities of software and emerging technologies and methodologies to effectively track emissions in real time; and

“(2) to reduce energy costs and increase efficiencies.

“(c) LOCATIONS.—If the Secretary conducts the Installations Emissions Tracking Program, the Secretary shall select, for purposes of the Program, four major military installations located in different geographical regions of the United States.”

DEPARTMENT OF DEFENSE PLAN TO REDUCE GREENHOUSE GAS EMISSIONS

Pub. L. 117–81, div. A, title III, §323, Dec. 27, 2021, 135 Stat. 1636, provided that:

“(a) PLAN REQUIRED.—Not later than September 30, 2022, the Secretary of Defense shall submit to Congress a plan to reduce the greenhouse gas emissions of the Department of Defense.

“(b) BRIEFINGS.—The Secretary shall provide to the Committees on Armed Services of the House of Representatives and the Senate annual briefings on the progress of the Department of Defense toward meeting science-based emissions targets in the plan required by subsection (a).”

IMPROVEMENT OF THE OPERATIONAL ENERGY CAPABILITY IMPROVEMENT FUND OF THE DEPARTMENT OF DEFENSE

Pub. L. 116–283, div. A, title III, §324, Jan. 1, 2021, 134 Stat. 3523, provided that:

“(a) MANAGEMENT OF THE OPERATIONAL ENERGY CAPABILITY IMPROVEMENT FUND.—The Assistant Secretary of

Defense for Energy, Installations, and Environment shall exercise authority, direction, and control over the Operational Energy Capability Improvement Fund of the Department of Defense (in this section referred to as the ‘OECIF’).

“(b) ALIGNMENT AND COORDINATION WITH RELATED PROGRAMS.—

“(1) REALIGNMENT OF OECIF.—Not later than 60 days after the date of the enactment of this Act [Jan. 1, 2021], the Secretary of Defense shall realign the OECIF under the Assistant Secretary of Defense for Energy, Installations, and Environment, with such realignment to include personnel positions adequate for the mission of the OECIF.

“(2) BETTER COORDINATION WITH RELATED PROGRAMS.—The Assistant Secretary shall ensure that the placement under the authority of the Assistant Secretary of the OECIF along with the Strategic Environmental Research Program, the Environmental Security Technology Certification Program, and the Operational Energy Prototyping Program is utilized to advance common goals of the Department, promote organizational synergies, and avoid unnecessary duplication of effort.

“(c) PROGRAM FOR OPERATIONAL ENERGY PROTOTYPING.—

“(1) IN GENERAL.—Commencing not later than 90 days after the date of the enactment of this Act, the Secretary of Defense, through the Assistant Secretary of Defense for Energy, Installations, and Environment, shall carry out a program for the demonstration of technologies related to operational energy prototyping, including demonstration of operational energy technology and validation prototyping.

“(2) OPERATION OF PROGRAM.—The Secretary shall ensure that the program under paragraph (1) operates in conjunction with the OECIF to promote the transfer of innovative technologies that have successfully established proof of concept for use in production or in the field.

“(3) PROGRAM ELEMENTS.—In carrying out the program under paragraph (1) the Secretary shall—

“(A) identify and demonstrate the most promising, innovative, and cost-effective technologies and methods that address high-priority operational energy requirements of the Department of Defense;

“(B) in conducting demonstrations under subparagraph (A)—

“(i) collect cost and performance data to overcome barriers against employing an innovative technology because of concerns regarding technical or programmatic risk; and

“(ii) ensure that components of the Department have time to establish new requirements where necessary and plan, program, and budget for technology transition to programs of record;

“(C) utilize project structures similar to those of the OECIF to ensure transparency and accountability throughout the efforts conducted under the program; and

“(D) give priority, in conjunction with the OECIF, to the development and fielding of clean technologies that reduce reliance on fossil fuels.

“(4) TOOL FOR ACCOUNTABILITY AND TRANSITION.—

“(A) IN GENERAL.—In carrying out the program under paragraph (1) the Secretary shall develop and utilize a tool to track relevant investments in operational energy from applied research to transition to use to ensure user organizations have the full picture of technology maturation and development.

“(B) TRANSITION.—The tool developed and utilized under subparagraph (A) shall be designed to overcome transition challenges with rigorous and well-documented demonstrations that provide the information needed by all stakeholders for acceptance of the technology.

“(5) LOCATIONS.—

“(A) IN GENERAL.—The Secretary shall carry out the testing and evaluation phase of the program

under paragraph (1) at installations of the Department of Defense or in conjunction with exercises conducted by the Joint Staff, a combatant command, or a military department.

“(B) FORMAL DEMONSTRATIONS.—The Secretary shall carry out any formal demonstrations under the program under paragraph (1) at installations of the Department or in operational settings to document and validate improved warfighting performance and cost savings.”

IMPROVED ELECTRICAL METERING OF DEPARTMENT OF DEFENSE INFRASTRUCTURE SUPPORTING CRITICAL MIS-SIONS

Pub. L. 116-283, div. B, title XXVIII, §2826, Jan. 1, 2021, 134 Stat. 4334, provided that:

“(a) OPTIONS TO IMPROVE ELECTRICAL METERING.—The Secretary of Defense and the Secretaries of the military departments shall improve the metering of electrical energy usage of covered defense structures to accurately determine energy consumption by such a structure to increase energy efficiency and improve energy resilience, using any combination of the options specified in subsection (b) or such other methods as the Secretary concerned considers practicable.

“(b) METERING OPTIONS.—Electrical energy usage options to be considered for a covered defense structure include the following:

“(1) Installation of a smart meter at the electric power supply cable entry point of the covered defense structure, with remote data storage and retrieval capability using cellular communication, to provide historical energy usage data on an hourly basis to accurately determine the optimum cost effective energy efficiency and energy resilience measures for the covered defense structure.

“(2) Use of an energy usage audit firm to individually meter the covered defense structure using clamp-on meters and data storage to provide year-long electric energy load profile data, particularly in the case of a covered defense structure located in climates with highly variable use based on weather or temperature changes, to accurately identify electric energy usage demand for both peak and off peak periods for a covered defense structure.

“(3) Manual collection and calculation of the connected load via nameplate data survey of all the connected electrical devices for the covered defense structure and comparison of such data to the designed maximum rating of the incoming electric supply to determine the maximum electrical load for the covered defense structure.

“(c) CYBERSECURITY.—The Secretary of Defense and the Secretaries of the military departments shall consult with the Chief Information Officer of the Department of Defense to ensure that the electrical energy metering options considered under subsection (b) do not compromise the cybersecurity of Department of Defense networks.

“(d) CONSIDERATION OF PARTNERSHIPS.—The Secretary of Defense and the Secretaries of the military departments shall consider the use of arrangements (known as public-private partnerships) with appropriate entities outside the Government to reduce the cost of carrying out this section.

“(e) DEFINITIONS.—In this section:

“(1) The term ‘covered defense structure’ means any infrastructure under the jurisdiction of the Department of Defense inside the United States that the Secretary of Defense or the Secretary of the military department concerned determines—

“(A) is used to support a critical mission of the Department; and

“(B) is located at a military installation with base-wide resilient power.

“(2) The term ‘energy resilience’ has the meaning given that term in section 101(e)(6) of title 10, United States Code [now 10 U.S.C. 101(f)(6)].

“(f) IMPLEMENTATION REPORT.—As part of the Department of Defense energy management report to be sub-

mitted under section 2925 of title 10, United States Code, during fiscal year 2022, the Secretary of Defense shall include information on the progress being made to comply with the requirements of this section.”

PILOT PROGRAM TO TEST USE OF EMERGENCY DIESEL GENERATORS IN A MICROGRID CONFIGURATION AT CERTAIN MILITARY INSTALLATIONS

Pub. L. 116-283, div. B, title XXVIII, §2864, Jan. 1, 2021, 134 Stat. 4359, provided that:

“(a) **PILOT PROGRAM AUTHORIZED.**—The Secretary of Defense may conduct a pilot program (to be known as the ‘Emergency Diesel Generator Microgrid Program’) to evaluate the feasibility and cost effectiveness of connecting existing diesel generators at a military installation selected pursuant to subsection (c) to create and support one or more microgrid configurations at the installation capable of providing full-scale electrical power for the defense critical facilities located at the installation during an emergency involving the loss of external electric power supply caused by an extreme weather condition, manmade intentional infrastructure damage, or other circumstance.

“(b) **GOALS OF PILOT PROGRAM.**—The goals of the Emergency Diesel Generator Microgrid Program are—

“(1) to test assumptions about lower operating and maintenance costs, parts interchangeability, lower emissions, lower fuel usage, increased resiliency, increased reliability, and reduced need for emergency diesel generators; and

“(2) to establish design criteria that could be used to build and sustain emergency diesel generator microgrids at other military installations.

“(c) **PILOT PROGRAM LOCATIONS.**—As the locations to conduct the Emergency Diesel Generator Microgrid Program, the Secretary of Defense shall select two major military installations located in different geographical regions of the United States that the Secretary determines—

“(1) are defense critical electric infrastructure sites or contain, or are served by, defense critical electric infrastructure; and

“(2) contain more than one defense critical function for national defense purposes and the mission assurance of such critical defense facilities are paramount to maintaining national defense and force projection capabilities at all times; and

“(3) face unique electric energy supply, delivery, and distribution challenges that, based on the geographic location of the installations and the overall physical size of the installations, adversely impact rapid electric infrastructure restoration after an interruption.

“(d) **SPECIFICATIONS OF DIESEL GENERATORS AND MICROGRID.**—

“(1) **GENERATOR SPECIFICATIONS.**—The Secretary of Defense shall use existing diesel generators that are sized \geq 750kW output.

“(2) **MICROGRID SPECIFICATIONS.**—The Secretary of Defense shall create the microgrid using commercially available and proven designs and technologies. The existing diesel generators used for the microgrid should be spaced within 1.0 to 1.5 mile of each other and, using a dedicated underground electric cable network, be tied into a microgrid configuration sufficient to supply mission critical facilities within the service area of the microgrid. A selected military installation may contain more than one such microgrid under the Emergency Diesel Generator Microgrid Program.

“(e) **PROGRAM AUTHORITIES.**—The Secretary of Defense may use the authority under section 2914 of title 10, United States Code (known as the Energy Resilience and Conservation Investment Program), and energy savings performance contracts to conduct the Emergency Diesel Generator Microgrid Program.

“(f) **DEFINITIONS.**—For purposes of the Emergency Diesel Generator Microgrid Program:

“(1) The term ‘defense critical electric infrastructure’ has the meaning given that term in section 215A of the Federal Power Act (16 U.S.C. 824a-1).

“(2) The term ‘energy savings performance contract’ has the meaning given that term in section 804(3) of the National Energy Conservation Policy Act (42 U.S.C. 8287c(3)).

“(3) The term ‘existing diesel generators’ means diesel generators located, as of the date of the enactment of this Act [Jan. 1, 2021], at a major military installation selected as a location for the Emergency Diesel Generator Microgrid Program and intended for emergency use.

“(4) The term ‘major military installation’ has the meaning given that term in section 2864 of title 10, United States Code.”

PILOT PROGRAM FOR AVAILABILITY OF WORKING-CAPITAL FUNDS FOR INCREASED COMBAT CAPABILITY THROUGH ENERGY OPTIMIZATION

Pub. L. 116-92, div. A, title III, §337, Dec. 20, 2019, 133 Stat. 1316, provided that:

“(a) **IN GENERAL.**—Notwithstanding section 2208 of title 10, United States Code, the Secretary of Defense and the military departments may use a working capital fund established pursuant to that section for expenses directly related to conducting a pilot program for energy optimization initiatives described in subsection (b).

“(b) **ENERGY OPTIMIZATION INITIATIVES.**—Energy optimization initiatives covered by the pilot program include the research, development, procurement, installation, and sustainment of technologies or weapons system platforms, and the manpower required to do so, that would improve the efficiency and maintainability, extend the useful life, lower maintenance costs, or provide performance enhancement of the weapon system platform or major end item.

“(c) **LIMITATION ON CERTAIN PROJECTS.**—Funds may not be used pursuant to subsection (a) for—

“(1) any product improvement that significantly changes the performance envelope of an end item; or

“(2) any single component with an estimated total cost in excess of \$10,000,000.

“(d) **LIMITATION IN FISCAL YEAR PENDING TIMELY REPORT.**—If during any fiscal year the report required by paragraph (1) of subsection (e) is not submitted by the date specified in paragraph (2) of that subsection, funds may not be used pursuant to subsection (a) during the period—

“(1) beginning on the date specified in such paragraph (2); and

“(2) ending on the date of the submittal of the report.

“(e) **ANNUAL REPORT.**—

“(1) **IN GENERAL.**—The Secretary of Defense shall submit an annual report to the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] on the use of the authority under subsection (a) during the preceding fiscal year.

“(2) **DEADLINE FOR SUBMITTAL.**—The report required by paragraph (1) in a fiscal year shall be submitted not later than 60 days after the date of the submittal to Congress of the budget of the President for the succeeding fiscal year pursuant to section 1105 of title 31, United States Code.

“(3) **RECOMMENDATION.**—In the case of the report required to be submitted under paragraph (1) during fiscal year 2020, the report shall include the recommendation of the Secretary of Defense and the military departments regarding whether the authority under subsection (a) should be made permanent.

“(f) **SUNSET.**—The authority under subsection (a) shall expire on October 1, 2024.”

AGGREGATION OF ENERGY EFFICIENCY AND ENERGY RESILIENCE PROJECTS IN LIFE CYCLE COST ANALYSES

Pub. L. 115-91, div. B, title XXVIII, §2837, Dec. 12, 2017, 131 Stat. 1859, provided that: “The Secretary of Defense or the Secretary of a military department, when conducting life cycle cost analyses with respect

to investments designed to lower costs and reduce energy and water consumption, shall aggregate energy efficiency projects and energy resilience improvements as appropriate.”

ENERGY SECURITY FOR MILITARY INSTALLATIONS IN EUROPE

Pub. L. 116-92, div. B, title XXVIII, §2821(a)-(c), Dec. 20, 2019, 133 Stat. 1888, provided that:

“(a) PROHIBITION ON USE OF CERTAIN ENERGY SOURCE.—The Secretary of Defense shall ensure that each contract for the acquisition of furnished energy for a covered military installation in Europe does not use any energy sourced from inside the Russian Federation as a means of generating the furnished energy for the covered military installation.

“(b) WAIVER FOR NATIONAL SECURITY INTERESTS.—

“(1) WAIVER AUTHORITY; CERTIFICATION.—The Secretary of Defense may waive application of subsection (a) to a specific contract for the acquisition of furnished energy for a covered military installation if the Secretary certifies to the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] that—

“(A) the waiver of such subsection is necessary to ensure an adequate supply of furnished energy for the covered military installation; and

“(B) the Secretary has balanced these national security requirements against the potential risk associated with reliance upon the Russian Federation for furnished energy.

“(2) SUBMISSION OF WAIVER NOTICE.—Not later than 14 days before the execution of any energy contract for which a waiver is granted under paragraph (1), the Secretary of Defense shall submit to the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] notice of the waiver. The waiver notice shall include the following:

“(A) The rationale for the waiver, including the basis for the certifications required by subparagraphs (A) and (B) of paragraph (1).

“(B) An assessment of how the waiver may impact the European energy resiliency strategy.

“(C) An explanation of the measures the Department of Defense is taking to mitigate the risk of using Russian Federation furnished energy.

“(c) DEFINITIONS.—In this section:

“(1) The term ‘covered military installation’ means a military installation in Europe identified by the Department of Defense as a main operating base.

“(2) The term ‘furnished energy’ means energy furnished to a covered military installation in any form and for any purpose, including heating, cooling, and electricity.”

Pub. L. 115-91, div. B, title XXVIII, §2880, Dec. 12, 2017, 131 Stat. 1875, provided that:

“(a) AUTHORITY.—The Secretary of Defense shall take appropriate measures, to the extent practicable, to—

“(1) reduce the dependency of all United States military installations in Europe on energy sourced inside Russia; and

“(2) ensure that all United States military installations in Europe are able to sustain operations in the event of a supply disruption.

“(b) CERTIFICATION REQUIREMENT.—Not later than December 31, 2021, the Secretary of Defense shall certify to the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] whether or not at United States military installations in Europe the Department of Defense—

“(1) has taken significant steps to minimize to the extent practicable the dependency on energy sourced inside the Russian Federation at such installations; and

“(2) has the ability to sustain mission critical operations during an energy supply disruption.

“(c) DEFINITION OF ENERGY SOURCES INSIDE RUSSIA.—In this section, the term ‘energy sourced inside Russia’

means energy that is produced, owned, or facilitated by companies that are located in the Russian Federation or owned or controlled by the Government of the Russian Federation.”

BUSINESS CASE ANALYSIS OF ANY PLAN TO DESIGN, REFURBISH, OR CONSTRUCT A BIOFUEL REFINERY

Pub. L. 113-291, div. A, title III, §314, Dec. 19, 2014, 128 Stat. 3338, provided that: “Not later than 30 days before entering into a contract for the planning, design, refurbishing, or construction of a biofuel refinery, or of any other facility or infrastructure used to refine biofuels, the Secretary of Defense or the Secretary of the military department concerned shall submit to the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] a business case analysis for such planning, design, refurbishing, or construction.”

GUIDANCE ON FINANCING FOR RENEWABLE ENERGY PROJECTS

Pub. L. 112-239, div. B, title XXVIII, §2824, Jan. 2, 2013, 126 Stat. 2153, as amended by Pub. L. 113-291, div. A, title IX, §901(n)(2), Dec. 19, 2014, 128 Stat. 3469; Pub. L. 116-92, div. A, title IX, §902(81), Dec. 20, 2019, 133 Stat. 1553, provided that:

“(a) GUIDANCE ON USE OF AVAILABLE FINANCING APPROACHES.—

“(1) ISSUANCE.—Not later than 180 days after the date of the enactment of this Act [Jan. 2, 2013], the Secretary of Defense shall—

“(A) issue guidance about the use of available financing approaches for financing renewable energy projects; and

“(B) direct the Secretaries of the military departments to update their military department-wide guidance accordingly.

“(2) ELEMENTS.—The guidance issued pursuant to paragraph (1) should describe the requirements and restrictions applicable to the underlying authorities and any Department of Defense-specific guidelines for using appropriated funds and alternative-financing approaches for renewable energy projects to maximize cost savings and energy efficiency for the Department of Defense.

“(b) GUIDANCE ON USE OF BUSINESS CASE ANALYSES.—Not later than 180 days after the date of the enactment of this Act, the Secretary of Defense shall issue guidance that establishes and clearly describes the processes used by the military departments to select financing approaches for renewable energy projects to ensure that business case analyses are completed to maximize cost savings and energy efficiency and mitigate drawbacks and risks associated with different financing approaches.

“(c) INFORMATION SHARING.—Not later than 180 days after the date of the enactment of this Act, the Secretary of Defense shall develop a formalized communications process, such as a shared Internet website, that will enable officials at military installations to have timely access on an ongoing basis to information related to financing renewable energy projects on other installations, including best practices and lessons that officials at other installations have learned from their experiences in financing renewable energy projects.

“(d) CONSULTATION.—The Secretary of Defense shall issue the guidance under subsections (a) and (b) and develop the communications process under subsection (c) in consultation with the Under Secretary of Defense for Acquisition and Sustainment. The Secretary of Defense shall also issue the guidance under subsection (b) in consultation with the Secretaries of the military departments.”

ENERGY-EFFICIENT TECHNOLOGIES IN CONTRACTS FOR LOGISTICS SUPPORT OF CONTINGENCY OPERATIONS

Pub. L. 112-81, div. A, title III, §315, Dec. 31, 2011, 125 Stat. 1357, as amended by Pub. L. 116-92, div. A, title IX, §902(82), title XVII, §1731(e), Dec. 20, 2019, 133 Stat. 1553, 1816, provided that:

“(a) ENERGY PERFORMANCE MASTER PLAN.—The energy performance master plan for the Department of Defense developed under section 2911 of title 10, United States Code, shall specifically address the application of energy-efficient or energy reduction technologies or processes meeting the requirements of subsection (b) in logistics support contracts for contingency operations. In accordance with the requirements of such section, the plan shall include goals, metrics, and incentives for achieving energy efficiency in such contracts.

“(b) REQUIREMENTS FOR ENERGY TECHNOLOGIES AND PROCESSES.—Energy-efficient and energy reduction technologies or processes described in subsection (a) are technologies or processes that meet the following criteria:

“(1) The technology or process achieves long-term savings for the Government by reducing overall demand for fuel and other sources of energy in contingency operations.

“(2) The technology or process does not disrupt the mission, the logistics, or the core requirements in the contingency operation concerned.

“(3) The technology or process is able to integrate seamlessly into the existing infrastructure in the contingency operation concerned.

“(c) REGULATIONS AND GUIDANCE.—The Under Secretary of Defense for Acquisition and Sustainment shall issue such regulations and guidance as may be needed to implement the requirements of this section and ensure that goals established pursuant to subsection (a) are met. Such regulations or guidance shall consider the lifecycle cost savings associated with the energy technology or process being offered by a vendor for defense logistics support and oblige the offeror to demonstrate the savings achieved over traditional technologies.

“(d) REPORT.—The annual report required by section 2925(b) of title 10, United States Code [as amended by Pub. L. 117-263, §314(b)(1)(B), section 2925(b) of this title relates to elements in reports required by section 2925(a) of this title], shall include information on the progress in the implementation of this section, including savings achieved by the Department resulting from such implementation.

“(e) DEFINITIONS.—In this section:

“(1) The term ‘defense logistics support contract’ means a contract for services, or a task order under such a contract, awarded by the Department of Defense to provide logistics support during times of military mobilizations, including contingency operations, in any amount greater than the simplified acquisition threshold.

“(2) The term ‘contingency operation’ has the meaning provided in section 101(a)(13) of title 10, United States Code.”

[Pub. L. 116-92, div. A, title XVII, §1731(e), Dec. 20, 2019, 133 Stat. 1816, provided that the amendment made by section 1731(e) to section 315 of Pub. L. 112-81, set out above, is effective as of Dec. 31, 2011, and as if included in Pub. L. 112-81 as enacted. Consequently, the amendment made by section 902(82) of Pub. L. 116-92, which was directed to subsec. (d), was executed to subsec. (c) as redesignated by section 1731(e), to reflect the probable intent of Congress.]

POLICY OF PURSUING ENERGY SECURITY

Pub. L. 112-81, div. B, title XXVIII, §2822(a), Dec. 31, 2011, 125 Stat. 1691, provided that:

“(1) POLICY REQUIRED.—Not later than 180 days after the date of enactment of this Act [Dec. 31, 2011], the Secretary of Defense shall establish a policy for military installations that includes the following:

“(A) Favorable consideration for energy security in the design and development of energy projects on the military installation that will use renewable energy sources.

“(B) Guidance for commanders of military installations inside the United States on planning measures to minimize the effects of a disruption of services by a utility that sells natural gas, water, or electric en-

ergy to those installations in the event that a disruption occurs.

“(2) NOTIFICATION.—The Secretary of Defense shall provide notification to the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] within 30 days after entering into any agreement for a facility energy project described in paragraph (1)(A) that excludes pursuit of energy security on the grounds that inclusion of energy security is cost prohibitive. The Secretary shall also provide a cost-benefit-analysis of the decision.

“(3) ENERGY SECURITY DEFINED.—In this subsection, the term ‘energy security’ has the meaning given that term in [former] paragraph (3) of section 2924 of title 10, United States Code, as added by section 2821(a).”

DEADLINE FOR CONGRESSIONAL NOTIFICATION

Pub. L. 112-81, div. B, title XXVIII, §2823(b), Dec. 31, 2011, 125 Stat. 1692, provided that: “Not later than 180 days after the date of the enactment of this Act [Dec. 31, 2011], the Secretary of Defense shall notify the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] of the interim renewable energy goal established pursuant to the amendment made by subsection (a) [amending this section].”

DEPARTMENT OF DEFENSE TO CAPTURE AND TRACK DATA GENERATED IN METERING DEPARTMENT FACILITIES

Pub. L. 112-81, div. B, title XXVIII, §2827, Dec. 31, 2011, 125 Stat. 1694, provided that: “The Secretary of Defense shall require that the information generated by the installation energy meters be captured and tracked to determine baseline energy consumption and facilitate efforts to reduce energy consumption.”

TRAINING POLICY FOR DEPARTMENT OF DEFENSE ENERGY MANAGERS

Pub. L. 112-81, div. B, title XXVIII, §2829, Dec. 31, 2011, 125 Stat. 1694, provided that:

“(a) ESTABLISHMENT OF TRAINING POLICY.—The Secretary of Defense shall establish a training policy for Department of Defense energy managers designated for military installations in order to—

“(1) improve the knowledge, skills, and abilities of energy managers by ensuring understanding of existing energy laws, regulations, mandates, contracting options, local renewable portfolio standards, current renewable energy technology options, energy auditing, and options to reduce energy consumption;

“(2) improve consistency among energy managers throughout the Department in the performance of their responsibilities;

“(3) create opportunities and forums for energy managers to exchange ideas and lessons learned within each military department, as well as across the Department of Defense; and

“(4) collaborate with the Department of Energy regarding energy manager training.

“(b) ISSUANCE OF POLICY.—Not later than 180 days after the date of the enactment of this Act [Dec. 31, 2011], the Secretary of Defense shall issue the training policy for Department of Defense energy managers. In creating the policy, the Secretary shall consider the best practices and certifications available in either the military services or in the private sector.

“(c) BRIEFING REQUIREMENT.—Not later than 180 days after the date of the enactment of this Act, the Secretary of Defense, or designated representatives of the Secretary, shall brief the Committees on Armed Services of the Senate and House of Representatives regarding the details of the energy manager policy.”

PILOT PROGRAM ON COLLABORATIVE ENERGY SECURITY

Pub. L. 111-383, div. A, title II, §242, Jan. 7, 2011, 124 Stat. 4176, provided that:

“(a) PILOT PROGRAM.—The Secretary of Defense, in coordination with the Secretary of Energy, may carry

out a collaborative energy security pilot program involving one or more partnerships between one military installation and one national laboratory, for the purpose of evaluating and validating secure, salable microgrid components and systems for deployment.

“(b) SELECTION OF MILITARY INSTALLATION AND NATIONAL LABORATORY.—If the Secretary of Defense carries out a pilot program under this section, the Secretary of Defense and the Secretary of Energy shall jointly select a military installation and a national laboratory for the purpose of carrying out the pilot program. In making such selections, the Secretaries shall consider each of the following:

“(1) A commitment to participate made by a military installation being considered for selection.

“(2) The findings and recommendations of relevant energy security assessments of military installations being considered for selection.

“(3) The availability of renewable energy sources at a military installation being considered for selection.

“(4) Potential synergies between the expertise and capabilities of a national laboratory being considered for selection and the infrastructure, interests, or other energy security needs of a military installation being considered for selection.

“(5) The effects of any utility tariffs, surcharges, or other considerations on the feasibility of enabling any excess electricity generated on a military installation being considered for selection to be sold or otherwise made available to the local community near the installation.

“(c) PROGRAM ELEMENTS.—A pilot program under this section shall be carried out as follows:

“(1) Under the pilot program, the Secretaries shall evaluate and validate the performance of new energy technologies that may be incorporated into operating environments.

“(2) The pilot program shall involve collaboration with the Office of Electricity Delivery and Energy Reliability of the Department of Energy and other offices and agencies within the Department of Energy, as appropriate, and the Environmental Security Technical Certification Program of the Department of Defense.

“(3) Under the pilot program, the Secretary of Defense shall investigate opportunities for any excess electricity created for the military installation to be sold or otherwise made available to the local community near the installation.

“(4) The Secretary of Defense shall use the results of the pilot program as the basis for informing key performance parameters and validating energy components and designs that could be implemented in various military installations across the country and at forward operating bases.

“(5) The pilot program shall support the effort of the Secretary of Defense to use the military as a test bed to demonstrate innovative energy technologies.

“(d) IMPLEMENTATION AND DURATION.—If the Secretary of Defense carries out a pilot program under this section, such pilot program shall begin by not later than July 1, 2011, and shall be not less than three years in duration.

“(e) REPORTS.—

“(1) INITIAL REPORT.—If the Secretary of Defense carries out a pilot program under this section, the Secretary shall submit to the appropriate congressional committees by not later than October 1, 2011, an initial report that provides an update on the implementation of the pilot program, including an identification of the selected military installation and national laboratory partner and a description of technologies under evaluation.

“(2) FINAL REPORT.—Not later than 90 days after completion of a pilot program under this section, the Secretary shall submit to the appropriate congressional committees a report on the pilot program, including any findings and recommendations of the Secretary.

“(f) DEFINITIONS.—For purposes of this section:

“(1) The term ‘appropriate congressional committees’ means—

“(A) the Committee on Armed Services, the Committee on Energy and Commerce, and the Committee on Science and Technology [now Committee on Science, Space, and Technology] of the House of Representatives; and

“(B) the Committee on Armed Services, the Committee on Energy and Natural Resources, and the Committee on Commerce, Science, and Transportation of the Senate.

“(2) The term ‘microgrid’ means an integrated energy system consisting of interconnected loads and distributed energy resources (including generators, energy storage devices, and smart controls) that can operate with the utility grid or in an intentional islanding mode.

“(3) The term ‘national laboratory’ means—

“(A) a national laboratory (as defined in section 2 of the Energy Policy Act of 2005 (42 U.S.C. 15801)); or

“(B) a national security laboratory (as defined in section 3281 of the National Nuclear Security Administration Act (50 U.S.C. 2471)).”

ENERGY SECURITY ON DEPARTMENT OF DEFENSE INSTALLATIONS

Pub. L. 111–84, div. A, title III, § 335, Oct. 28, 2009, 123 Stat. 2259, provided that:

“(a) PLAN FOR ENERGY SECURITY REQUIRED.—

“(1) IN GENERAL.—Not later than 180 days after the date of the enactment of this Act [Oct. 28, 2009], the Secretary of Defense shall develop a plan for identifying and addressing areas in which the electricity needed to carry out critical military missions on Department of Defense installations is vulnerable to disruption.

“(2) ELEMENTS.—The plan developed under paragraph (1) shall include, at a minimum, the following:

“(A) An identification of the areas of vulnerability as described in paragraph (1), and an identification of priorities in addressing such areas of vulnerability.

“(B) A schedule for the actions to be taken by the Department to address such areas of vulnerability.

“(C) A strategy for working with other public or private sector entities to address such areas of vulnerability that are beyond the control of the Department.

“(D) An estimate of and consideration for the costs to the Department associated with implementation of the strategy.

“(b) WORK WITH NON-DEPARTMENT OF DEFENSE ENTITIES.—The Secretary of Defense shall work with other Federal entities, and with State and local government entities, to develop any regulations or other mechanisms needed to require or encourage actions to address areas of vulnerability identified pursuant to the plan developed under subsection (a) that are beyond the control of the Department of Defense.”

CONSIDERATION OF FUEL LOGISTICS SUPPORT REQUIREMENTS IN PLANNING, REQUIREMENTS DEVELOPMENT, AND ACQUISITION PROCESSES

Pub. L. 110–417, [div. A], title III, § 332, Oct. 14, 2008, 122 Stat. 4420, as amended by Pub. L. 111–383, div. A, title X, § 1075(e)(5), Jan. 7, 2011, 124 Stat. 4374; Pub. L. 118–31, div. A, title III, § 315, Dec. 22, 2023, 137 Stat. 217, provided that:

“(a) PLANNING.—In the case of analyses and force planning processes that are used to establish capability requirements and inform acquisition decisions, the Secretary of Defense shall require that analyses and force planning processes consider the requirements for, and vulnerability of, fuel logistics.

“(b) CAPABILITY REQUIREMENTS DEVELOPMENT PROCESS.—

“(1) IN GENERAL [sic].—The Secretary of Defense shall develop and implement a methodology to enable

the implementation of a fuel efficiency key performance parameter in the requirements development process for the modification of existing or development of new fuel consuming systems.

“(2) WAIVER OF FUEL EFFICIENCY KEY PERFORMANCE PARAMETER.—

“(A) IN GENERAL.—The fuel efficiency key performance parameter implemented pursuant to paragraph (1) may be waived with respect to a system only if—

“(i) such waiver is approved by the Under Secretary of Defense for Acquisition and Sustainment; and

“(ii) the system is a fuel consuming system that the Under Secretary of Defense for Acquisition and Sustainment determines requires, or is likely to require, sustainment on at least an occasional basis.

“(B) NONDELEGATION.—The authority to approve a waiver under subparagraph (A) may not be delegated.

“(C) ACQUISITION PROCESS.—The Secretary of Defense shall require that the life-cycle cost analysis for new capabilities include the fully burdened cost of fuel during analysis of alternatives and evaluation of alternatives and acquisition program design trades.

“(d) IMPLEMENTATION PLAN.—The Secretary of Defense shall prepare a plan for implementing the requirements of this section. The plan shall be completed not later than 180 days after the date of the enactment of this Act [Oct. 14, 2008] and provide for the implementation of the requirements by not later than three years after the date of the enactment of this Act.

“(e) PROGRESS REPORT.—Not later than two years after the date of the enactment of this Act [Oct. 14, 2008], the Secretary of Defense shall submit to the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] a report describing progress made to implement the requirements of this section, including an assessment of whether the implementation plan required by subsection (d) is being carried out on schedule.

“(f) NOTIFICATION OF COMPLIANCE.—As soon as practicable during the three-year period beginning on the date of the enactment of this Act [Oct. 14, 2008], the Secretary of Defense shall notify the congressional defense committees that the Secretary has complied with the requirements of this section. If the Secretary is unable to provide the notification, the Secretary shall submit to the congressional defense committees at the end of the three-year period a report containing—

“(1) an explanation of the reasons why the requirements, or portions of the requirements, have not been implemented; and

“(2) a revised plan under subsection (d) to complete implementation or a rationale regarding why portions of the requirements cannot or should not be implemented.

“(g) FULLY BURDENED COST OF FUEL DEFINED.—In this section, the term ‘fully burdened cost of fuel’ means the commodity price for fuel plus the total cost of all personnel and assets required to move and, when necessary, protect the fuel from the point at which the fuel is received from the commercial supplier to the point of use.”

MITIGATION OF POWER OUTAGE RISKS FOR DEPARTMENT OF DEFENSE FACILITIES AND ACTIVITIES

Pub. L. 110-417, [div. A], title III, § 335, Oct. 14, 2008, 122 Stat. 4422, as amended by Pub. L. 114-92, div. A, title X, § 1079(d)(1), Nov. 25, 2015, 129 Stat. 999, provided that:

“(a) RISK ASSESSMENT.—The Secretary of Defense shall conduct a comprehensive technical and operational risk assessment of the risks posed to mission critical installations, facilities, and activities of the Department of Defense by extended power outages resulting from failure of the commercial electricity supply or grid and related infrastructure.

“(b) RISK MITIGATION PLANS.—

“(1) IN GENERAL.—The Secretary of Defense shall develop integrated prioritized plans to eliminate, reduce, or mitigate significant risks identified in the risk assessment under subsection (a).

“(2) ADDITIONAL CONSIDERATIONS.—In developing the risk mitigation plans under paragraph (1), the Secretary of Defense shall—

“(A) prioritize the mission critical installations, facilities, and activities that are subject to the greatest and most urgent risks; and

“(B) consider the cost effectiveness of risk mitigation options.”

USE OF ENERGY EFFICIENT LIGHTING FIXTURES AND BULBS IN DEPARTMENT OF DEFENSE FACILITIES

Pub. L. 110-181, div. B, title XXVIII, § 2863, Jan. 28, 2008, 122 Stat. 560, provided that:

“(a) CONSTRUCTION AND ALTERATION OF BUILDINGS.—Each building constructed or significantly altered by the Secretary of Defense or the Secretary of a military department shall be equipped, to the maximum extent feasible as determined by the Secretary concerned, with lighting fixtures and bulbs that are energy efficient.

“(b) MAINTENANCE OF BUILDINGS.—Each lighting fixture or bulb that is replaced in the normal course of maintenance of buildings under the jurisdiction of the Secretary of Defense or the Secretary of a military department shall be replaced, to the maximum extent feasible as determined by the Secretary concerned, with a lighting fixture or bulb that is energy efficient.

“(c) CONSIDERATIONS.—In making a determination under this section concerning the feasibility of installing a lighting fixture or bulb that is energy efficient, the Secretary of Defense or the Secretary of a military department shall consider—

“(1) the life cycle cost effectiveness of the fixture or bulb;

“(2) the compatibility of the fixture or bulb with existing equipment;

“(3) whether use of the fixture or bulb could result in interference with productivity;

“(4) the aesthetics relating to use of the fixture or bulb; and

“(5) such other factors as the Secretary concerned determines appropriate.

“(d) ENERGY STAR.—A lighting fixture or bulb shall be treated as being energy efficient for purposes of this section if—

“(1) the fixture or bulb is certified under the Energy Star program established by section 324A of the Energy Policy and Conservation Act (42 U.S.C. 6294a); or

“(2) the Secretary of Defense or the Secretary of a military department has otherwise determined that the fixture or bulb is energy efficient.

“(e) SIGNIFICANT ALTERATIONS.—A building shall be treated as being significantly altered for purposes of subsection (a) if the alteration is subject to congressional authorization under section 2802 of title 10, United States Code.

“(f) WAIVER AUTHORITY.—The Secretary of Defense may waive the requirements of this section if the Secretary determines that such a waiver is necessary to protect the national security interests of the United States.

“(g) EFFECTIVE DATE.—The requirements of subsections (a) and (b) shall take effect one year after the date of the enactment of this Act [Jan. 28, 2008].”

REPORTING REQUIREMENTS RELATING TO RENEWABLE ENERGY USE BY DEPARTMENT OF DEFENSE TO MEET DEPARTMENT ELECTRICITY NEEDS

Pub. L. 110-181, div. B, title XXVIII, § 2864, Jan. 28, 2008, 122 Stat. 561, related to reporting requirements relating to renewable energy use by Department of Defense to meet Department electricity needs, prior to repeal by Pub. L. 113-66, div. A, title X, § 1084(b)(2)(B), Dec. 26, 2013, 127 Stat. 872.

UTILIZATION OF FUEL CELLS AS BACK-UP POWER
SYSTEMS IN DEPARTMENT OF DEFENSE OPERATIONS

Pub. L. 109-364, div. A, title III, § 358, Oct. 17, 2006, 120 Stat. 2164, provided that: “The Secretary of Defense shall consider the utilization of fuel cells as replacements for current back-up power systems in a variety of Department of Defense operations and activities, including in telecommunications networks, perimeter security, individual equipment items, and remote facilities, in order to increase the operational longevity of back-up power systems and stand-by power systems in such operations and activities.”

ENERGY EFFICIENCY IN WEAPONS PLATFORMS

Pub. L. 109-364, div. A, title III, § 360(a), Oct. 17, 2006, 120 Stat. 2164, provided that: “It shall be the policy of the Department of Defense to improve the fuel efficiency of weapons platforms, consistent with mission requirements, in order to—

- “(1) enhance platform performance;
- “(2) reduce the size of the fuel logistics systems;
- “(3) reduce the burden high fuel consumption places on agility;
- “(4) reduce operating costs; and
- “(5) dampen the financial impact of volatile oil prices.”

DEPARTMENT OF DEFENSE ENERGY EFFICIENCY
PROGRAM

Pub. L. 107-107, div. A, title III, § 317, Dec. 28, 2001, 115 Stat. 1054, directed the Secretary of Defense to carry out a program to significantly improve the energy efficiency of facilities of the Department of Defense through 2010 and to submit annual reports to the congressional defense committees through 2010 regarding the progress made toward achieving the energy efficiency goals.

Executive Documents

EX. ORD. NO. 13972. PROMOTING SMALL MODULAR REACTORS FOR NATIONAL DEFENSE AND SPACE EXPLORATION

Ex. Ord. No. 13972, Jan. 5, 2021, 86 F.R. 3727, provided: By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

SECTION 1. *Purpose.* Nuclear energy is critical to United States national security. That is why I have taken a series of actions to promote its development and facilitate its use. On June 29, 2017, I announced an initiative to revive and expand the nuclear energy sector and directed a complete review of United States nuclear energy policy to help find new ways to revitalize this crucial energy resource. On July 12, 2019, I signed a Presidential Memorandum entitled “The Effect of Uranium Imports on the National Security and Establishment of the United States Nuclear Fuel Working Group,” with the goal of examining the current state of domestic nuclear fuel production and reinvigorating the nuclear fuel supply chain, consistent with United States national security and nonproliferation goals. On August 20, 2019, I signed National Security Presidential Memorandum-20, entitled “Launch of Spacecraft Containing Space Nuclear Systems,” calling for development and use of space nuclear systems to enable or enhance space exploration and operational capabilities.

The purpose of this order is to take an important additional step to revitalize the United States nuclear energy sector, reinvigorate America’s space exploration program, and develop diverse energy options for national defense needs. Under this action, the United States Government will coordinate its nuclear activities to apply the benefits of nuclear energy most effectively toward American technology supremacy, including the use of small modular reactors for national defense and space exploration. This work is critical to advancing my Administration’s priorities for the United States to lead in research, technology, invention, inno-

vation, and advanced technology development; its mission to promote and protect the United States national security innovation base; its drive to secure energy dominance; and its commitment to achieving all of these goals in a manner consistent with the highest nuclear nonproliferation standards.

The United States was the first nation to invent and develop the technology to harness nuclear energy. Since the 1950s, the United States Navy has been operating and advancing transportable nuclear reactors, resulting in powerfully enhanced marine propulsion for its aircraft carriers and allowing nuclear-powered submarines to remain submerged for extended periods of time.

The United States must sustain its ability to meet the energy requirements for its national defense and space exploration initiatives. The ability to use small modular reactors will help maintain and advance United States dominance and strategic leadership across the space and terrestrial domains.

SEC. 2. *Policy.* It is the policy of the United States to promote advanced reactor technologies, including small modular reactors, to support defense installation energy flexibility and energy security, and for use in space exploration, guided by the following principles:

(a) A healthy and robust nuclear energy industry is critical to the national security, energy security, and economic prosperity of the United States;

(b) The United States should maintain technology supremacy for nuclear research and development, manufacturing proficiency, and security and safety; and

(c) The United States Government should bolster national defense and space exploration capabilities and enable private-sector innovation of advanced reactor technologies.

SEC. 3. *Demonstration of Commercial Reactors to Enhance Energy Flexibility at a Defense Installation.* (a) Micro-reactors have the potential to enhance energy flexibility and energy security at domestic military installations in remote locations. Accordingly, the Secretary of Defense shall, within 180 days of the date of this order [Jan. 5, 2021], establish and implement a plan to demonstrate the energy flexibility capability and cost effectiveness of a Nuclear Regulatory Commission-licensed micro-reactor at a domestic military installation.

(b) If the demonstration is successful, the Secretary of Defense shall identify opportunities at domestic military installations where this capability could enhance or supplement the fulfillment of installation energy requirements. In identifying these opportunities, the Secretary of Defense shall take into account considerations that are unique to national defense needs and requirements that may not be relevant in the private sector, such as:

(i) the ability to provide resilient, independent energy delivery to installations in the event that connections to an electrical grid are compromised;

(ii) the ability to operate for an extended period of time without refueling;

(iii) system resistance to disruption from an electromagnetic pulse event; and

(iv) system cybersecurity requirements.

SEC. 4. *Defense Capabilities.* (a) The Department of Defense is one of the largest consumers of energy in the world, using more than 10 million gallons of fuel per day and 30,000 gigawatt-hours of electricity per year, nearly all of which is provided through civilian electrical grids. Fuel demands for a modern United States military have dramatically grown since World War II and are anticipated to continue to increase in order to support high-energy-usage military systems. In this context, nuclear power could significantly enhance national defense power capabilities.

(b) The Secretary of Defense shall, in consultation with the Secretary of State, the Secretary of Commerce, the Secretary of Energy, and the Administrator of the National Aeronautics and Space Administration (NASA Administrator):

(i) determine whether advanced nuclear reactors can be made to benefit Department of Defense future space power needs;

(ii) pilot a transportable micro-reactor prototype;

(iii) direct an analysis of alternatives for personnel, regulatory, and technical requirements to inform future decisions with respect to nuclear power usage; and

(iv) direct an analysis of United States military uses for space nuclear power and propulsion technologies and an analysis of foreign adversaries' space power and propulsion programs.

SEC. 5. *Space Exploration.* (a) Nuclear power sources that use uranium fuel or plutonium heat sources are essential to deep space exploration and in areas where solar power is not practical. NASA uses radioisotope power systems, such as radioisotope thermoelectric generators and radioisotope heater units, to provide power and heat for deep space robotic missions. Nuclear power sources in the kilowatt range may be needed for demonstrating In-situ Resource Utilization (ISRU) and robotic exploration of permanently shadowed craters on the Moon that contain frozen water. Nuclear reactors up to 100 kilowatts may be needed to support human habitats, ISRU, other facilities, and rovers on both the Moon and Mars. Power sources in the megawatt range would be necessary for efficient, long-duration deep space propulsion. Affordable, lightweight nuclear power sources in space would enable new opportunities for scientific discovery. The sustainable exploration of the Moon, Mars, and other locations will be enhanced if small modular reactors can be deployed and operated remotely from Earth.

(b) Within 180 days of the date of this order, the NASA Administrator, in consultation with heads of other executive departments and agencies (agencies), as appropriate, shall define requirements for NASA utilization of nuclear energy systems for human and robotic exploration missions through 2040 and analyze the costs and benefits of such requirements. In defining these requirements, the NASA Administrator shall take into account considerations unique to the utilization of nuclear energy systems in space, such as:

- (i) transportability of a reactor prior to and after deployment;
- (ii) thermal management in a reduced- or zero-gravity environment in a vacuum or near-vacuum;
- (iii) fluid transfer within reactor systems in a reduced or zero-gravity environment;
- (iv) reactor size and mass that can be launched from Earth and assembled in space;
- (v) cooling of nuclear reactors in space;
- (vi) electric power requirements;
- (vii) space safety rating to enable operations as part of human space exploration missions;
- (viii) period of time for which a reactor can operate without refueling; and
- (ix) conditioning of reactor components for use in the space environment.

SEC. 6. *Domestic Fuel Supply.* (a) A thriving and secure domestic nuclear fuel supply chain is critical to the national interests of the United States. A viable domestic nuclear fuel supply chain not only supports defense and national security activities, but also enables the success of the commercial nuclear industry. Many advanced reactor concepts, however, will require high-assay, low-enriched uranium (HALEU), for which no domestic commercial enrichment capability currently exists. The United States must take steps to ensure a viable United States-origin HALEU supply.

(b) The Secretary of Energy shall complete the Department of Energy's ongoing 3-year, \$115 million demonstration of a United States-origin enrichment technology capable of producing HALEU for use in defense-related advanced reactor applications. Within funding available for the demonstration project, the Secretary of Energy should develop a plan to promote successful transition of this technology to the private sector for commercial adoption.

(c) The Secretary of Energy shall consult with the Secretary of Defense, the Director of the Office of Management and Budget, and the NASA Administrator regarding how advanced fuels and related technologies can best support implementation of sections 3, 4, and 5 of this order.

SEC. 7. *Common Technology Roadmap.* (a) The Secretary of State, the Secretary of Defense, the Secretary of Commerce, the Secretary of Energy, and the NASA Administrator shall develop a common technology roadmap through 2030 that describes potential development programs and that coordinates, to the extent practicable, terrestrial-based advanced nuclear reactor and space-based nuclear power and propulsion efforts. Agencies shall remain responsible for funding their respective mission-unique requirements. The roadmap shall also include, at a minimum:

- (i) assessments of foreign nations' space nuclear power and propulsion technological capabilities;
- (ii) pathways for transitioning technologies developed through Federally supported programs to private-sector activities; and
- (iii) other applications supporting the goals provided in section 1 of this order.

(b) The roadmap shall be submitted to the President by the Director of the Office of Management and Budget, the Assistant to the President for Domestic Policy, the Director of the Office of Science and Technology Policy, the Assistant to the President for National Security Affairs, the Assistant to the President for Economic Policy, and the Executive Secretary of the National Space Council before submissions of budget proposals by the Secretary of State, the Secretary of Commerce, the Secretary of Energy, and the NASA Administrator.

SEC. 8. *Definitions.* For purposes of this order:

(a) The term "small modular reactor" refers to an advanced nuclear reactor of electric generation capacity less than 300 megawatt-electric. Because of the smaller size, small modular reactors can generally be designed for factory fabrication and modular construction to take advantage of economies of serial production and shorter construction times.

(b) The term "micro-reactor" refers to a nuclear reactor of electric generation capacity less than 10 megawatt-electric that can be deployed remotely. Micro-reactors are a subset of small modular reactors and are also known as "very small modular reactors."

(c) The term "transportable micro-reactor" refers to a micro-reactor that can be moved by truck, ship, or large military transport aircraft and is capable of both rapid deployment and teardown or removal, typically with safe teardown or removal less than 1 week after 1 year of full-power operation.

(d) The term "space exploration" refers to in-space scientific and resource exploration, in-space economic and industrial development, and development of associated in-space logistical infrastructure.

(e) The term "national defense" refers to the protection of the United States and its interests from foreign attack or other natural danger, including phenomena occurring on Earth and in space.

SEC. 9. *General Provisions.* (a) Nothing in this order shall be construed to impair or otherwise affect:

- (i) the authority granted by law to an executive department or agency, or the head thereof; or
- (ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(b) This order shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

DONALD J. TRUMP.

§ 2912. Availability and use of energy cost savings

(a) AVAILABILITY.—An amount of the funds appropriated to the Department of Defense for a fiscal year that is equal to the amount of energy