

Editorial Notes

CODIFICATION

Section was enacted as part of the National Defense Authorization Act for Fiscal Year 2014, and not as part of the Atomic Energy Defense Act which comprises this chapter.

SUBCHAPTER II—NUCLEAR WEAPONS
STOCKPILE MATTERS

PART A—STOCKPILE STEWARDSHIP AND WEAPONS
PRODUCTION

§ 2521. Stockpile stewardship program**(a) Establishment**

The Secretary of Energy, acting through the Administrator, shall establish a stewardship program to ensure—

(1) the preservation of the core intellectual and technical competencies of the United States in nuclear weapons, including weapons design, system integration, manufacturing, security, use control, reliability assessment, and certification; and

(2) that the nuclear weapons stockpile is safe, secure, and reliable without the use of underground nuclear weapons testing.

(b) Program elements

The program shall include the following:

(1) An increased level of effort for the construction of new facilities and the modernization of existing facilities with production and manufacturing capabilities that are necessary to support the deterrence of strategic attacks against the United States by maintaining and enhancing the performance, reliability, and security of the United States nuclear weapons stockpile, including—

(A) the nuclear weapons production facilities; and

(B) production and manufacturing capabilities resident in the national security laboratories.

(2) Support for advanced computational capabilities to enhance the simulation and modeling capabilities of the United States with respect to the performance over time of nuclear weapons.

(3) Support for above-ground experimental programs, such as hydrotesting, high-energy lasers, inertial confinement fusion, plasma physics, and materials research.

(4) Support for the modernization of facilities and projects that contribute to the experimental capabilities of the United States that support the sustainment and modernization of the United States nuclear weapons stockpile and the capabilities required to assess nuclear weapons effects.

(5) Support for the use of, and experiments facilitated by, the advanced experimental facilities of the United States, including—

(A) the National Ignition Facility at Lawrence Livermore National Laboratory;

(B) the Dual Axis Radiographic Hydrodynamic Test Facility at Los Alamos National Laboratory;

(C) the Z Machine at Sandia National Laboratories; and

(D) the experimental facilities at the Nevada National Security Site.

(Pub. L. 107-314, div. D, title XLII, §4201, formerly Pub. L. 103-160, div. C, title XXXI, §3138, Nov. 30, 1993, 107 Stat. 1946; Pub. L. 105-85, div. C, title XXXI, §3152(e), Nov. 18, 1997, 111 Stat. 2042; renumbered Pub. L. 107-314, div. D, title XLII, §4201, by Pub. L. 108-136, div. C, title XXXI, §3141(e)(2), Nov. 24, 2003, 117 Stat. 1758; Pub. L. 111-84, div. C, title XXXI, §3111, Oct. 28, 2009, 123 Stat. 2702; Pub. L. 112-239, div. C, title XXXI, §3131(b), (bb)(1)(C), Jan. 2, 2013, 126 Stat. 2180, 2185; Pub. L. 113-66, div. C, title XXXI, §3146(c)(1), Dec. 26, 2013, 127 Stat. 1073; Pub. L. 118-159, div. C, title XXXI, §3111(c)(1), Dec. 23, 2024, 138 Stat. 2293.)

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CODIFICATION

Section was formerly set out as a note under section 2121 of Title 42, The Public Health and Welfare, prior to renumbering by Pub. L. 108-136.

AMENDMENTS

2024—Subsec. (b)(1). Pub. L. 118-159, §3111(c)(1)(C), added par. (1). Former par. (1) redesignated (2).

Subsec. (b)(2), (3). Pub. L. 118-159, §3111(c)(1)(B), (D), (E), redesignated pars. (1) and (2) as (2) and (3), respectively, and substituted “Support” for “An increased level of effort”. Former par. (3) redesignated (4).

Subsec. (b)(4). Pub. L. 118-159, §3111(c)(1)(B), (F), redesignated par. (3) as (4) and amended it generally. Prior to amendment, par. read as follows: “Support for new facilities construction projects that contribute to the experimental capabilities of the United States, such as an advanced hydrodynamics facility, the National Ignition Facility, and other facilities for above-ground experiments to assess nuclear weapons effects.”

Subsec. (b)(5). Pub. L. 118-159, §3111(c)(1)(A), (B), redesignated par. (4) as (5) and struck out former par. (5) which related to support for facilities with production and manufacturing capabilities that are necessary to ensure the safety, security, and reliability of the nuclear weapons stockpile.

2013—Subsec. (a). Pub. L. 113-66, §3146(c)(1)(A), struck out “for Nuclear Security” after “Administrator” in introductory provisions.

Subsec. (b)(4)(D). Pub. L. 113-66, §3146(c)(1)(B)(i), which directed substitution of “Nevada National Security Site” for “Nevada national security site”, could not be executed because the words “Nevada National Security Site” already appeared in text after the amendment by Pub. L. 112-239, §3131(bb)(1)(C). See below.

Pub. L. 112-239, §3131(bb)(1)(C), which directed substitution of “Nevada National Security Site” for “Nevada Test Site”, was executed by making the substitution for “Nevada test site”, to reflect the probable intent of Congress.

Subsec. (b)(5). Pub. L. 113-66, §3146(c)(1)(B)(ii), added subpar. (A), redesignated subpar. (E) as (B), and struck out former subpars. (A) to (D) which read as follows:

“(A) the Pantex Plant;

“(B) the Y-12 National Security Complex;

“(C) the Kansas City Plant;

“(D) the Savannah River Site; and”.

Subsec. (b)(5)(E). Pub. L. 112-239, §3131(b), struck out “(as defined in section 2471 of this title)” after “laboratories”.

2009—Subsec. (a). Pub. L. 111-84, §3111(a), amended subsec. (a) generally. Prior to amendment, text read as follows: “The Secretary of Energy shall establish a stewardship program to ensure the preservation of the core intellectual and technical competencies of the United States in nuclear weapons, including weapons design, system integration, manufacturing, security, use control, reliability assessment, and certification.”

Subsec. (b)(1). Pub. L. 111–84, §3111(b)(1), substituted “performance over time” for “detonation”.

Subsec. (b)(4), (5). Pub. L. 111–84, §3111(b)(2), added pars. (4) and (5).

Subsec. (c). Pub. L. 111–84, §3111(c), struck out subsec. (c). Text read as follows: “Of funds authorized to be appropriated to the Secretary of Energy for fiscal year 1994 for weapons activities, \$157,400,000 shall be available for the stewardship program established under subsection (a).”

1997—Subsec. (d). Pub. L. 105–85, which directed amendment of this section by striking out subsecs. (d) and (e), redesignating subsecs. (f) to (h) as (d) to (f), respectively, and striking out “and the 60-day period referred to in subsection (e)(2)(A)(ii)” in subsec. (e), as so redesignated, was executed by striking out subsec. (d) which directed President to report to Congress, because this section did not contain subsecs. (e) to (g).

Statutory Notes and Related Subsidiaries

PORTFOLIO MANAGEMENT FRAMEWORK FOR NATIONAL NUCLEAR SECURITY ADMINISTRATION

Pub. L. 117–81, div. C, title XXXI, §3121, Dec. 27, 2021, 135 Stat. 2228, provided that:

“(a) IN GENERAL.—Not later than one year after the date of the enactment of this Act [Dec. 27, 2021], the Administrator for Nuclear Security shall—

“(1) in consultation with the Nuclear Weapons Council established under section 179 of title 10, United States Code, develop and implement a portfolio management framework for the nuclear security enterprise that—

“(A) defines the National Nuclear Security Administration’s portfolio of nuclear weapons stockpile and infrastructure maintenance and modernization programs;

“(B) establishes a portfolio governance structure, including portfolio-level selection criteria, prioritization criteria, and performance metrics;

“(C) outlines the approach of the National Nuclear Security Administration to managing that portfolio; and

“(D) incorporates the leading practices identified by the Comptroller General of the United States in the report titled ‘Nuclear Security Enterprise: NNSA Should Use Portfolio Management Leading Practices to Support Modernization Efforts’ (GAO–21–398) and dated June 2021; and

“(2) complete an integrated, comprehensive assessment of the portfolio management capabilities required to execute the weapons activities portfolio of the National Nuclear Security Administration.

“(b) BRIEFING REQUIREMENT.—Not later than June 1, 2022, the Administrator shall provide to the congressional defense committees a briefing on—

“(1) the progress of the Administrator in developing the framework described in paragraph (1) of subsection (a) and completing the assessment required by paragraph (2) of that subsection; and

“(2) the plans of the Administrator for implementing the recommendations of the Comptroller General in the report referred to in paragraph (1)(D) of that subsection.

“(c) NUCLEAR SECURITY ENTERPRISE DEFINED.—In this section, the term ‘nuclear security enterprise’ has the meaning given that term in section 4002 of the Atomic Energy Defense Act (50 U.S.C. 2501).”

NUCLEAR WARHEAD DESIGN COMPETITION

Pub. L. 115–91, div. C, title XXXI, §3118, Dec. 12, 2017, 131 Stat. 1890, provided that:

“(a) FINDINGS.—Congress finds the following:

“(1) In January 2016, the co-chairs of a congressionally mandated study panel from the National Academies of Science testified to the following before the Committee on Armed Services of the House of Representatives:

“(A) ‘The National Nuclear Security Administration (NNSA) complex must engage in robust design

competitions in order to exercise the design and production skills that underpin stockpile stewardship and are necessary to meet evolving threats.’.

“(B) ‘To exercise the full set of design skills necessary for an effective nuclear deterrent, the NNSA should develop and conduct the first in what the committee envisions to be a series of design competitions that integrate the full end-to-end process from novel design conception through engineering, building, and non-nuclear testing of a prototype.’.

“(2) In March 2016 testimony before the Committee on Armed Services of the House of Representatives regarding a December 2016 Defense Science Board report entitled, ‘Seven Defense Priorities for the New Administration’, members of that Board said the following:

“(A) ‘A key contributor to nuclear deterrence is the continuous, adaptable exercise of the development, design, and production functions for nuclear weapons in both the DOD and DOE. . . . Yet the DOE laboratories and DOD contractor community have done little integrated design and development work outside of life extension for 25 years, let alone concept development that could serve as a hedge to surprise.’.

“(B) ‘The Defense Science Board believes that the triad’s complementary features remain robust tenets for the design of a future force. Replacing our current, aging force is essential, but not sufficient in the more complex nuclear environment we now face to provide the adaptability or flexibility to confidently hold at risk what adversaries value. In particular, if the threat evolves in ways that favorably change the cost/benefit calculus in the view of an adversary’s leadership, then we should be in a position to quickly restore a credible deterrence posture.’.

“(3) In a memorandum dated May 9, 2014, then-Secretary of Energy Ernie Moniz said the following:

“(A) ‘If nuclear military capabilities are to provide deterrence for the nation they need to be relevant to the emerging global strategic environment. The current stockpile was designed to meet the needs of a bipolar world with roots in the Cold War era. A more complex, chaotic, and dynamic security environment is emerging. In order to uphold the Department’s mission to ensure an effective nuclear deterrent. . . . we must ensure our nuclear capabilities meet the challenges of known and potential geopolitical and technological trends. Therefore we must look ahead, using the expertise of our laboratories, to how the capabilities that may be employed by other nations could impact deterrence over the next several decades.’.

“(B) ‘We must challenge our thinking about our programs of record in order to permit foresighted actions that may reduce, in the coming decades, the chances for surprise and that buttress deterrence.’.

“(b) DESIGN COMPETITION.—

“(1) IN GENERAL.—In accordance with paragraph (2), the Administrator for Nuclear Security, in coordination with the Chairman of the Nuclear Weapons Council, shall carry out a new and comprehensive design competition for a nuclear warhead that could be employed on ballistic missiles of the United States by 2030. Such competition shall—

“(A) examine options for warhead design and related delivery system requirements in the 2030s, including—

“(i) life extension of existing weapons;

“(ii) new capabilities; and

“(iii) such other concepts as the Administrator and the Chairman determine necessary to fully exercise and create responsive design capabilities in the enterprise and ensure a robust nuclear deterrent into the 2030s;

“(B) assess how the capabilities and defenses that may be employed by other countries could impact deterrence in 2030 and beyond and how such threats

could be addressed or mitigated in the warhead and related delivery systems;

“(C) exercise the full set of design skills necessary for an effective nuclear deterrent and responsive enterprise through production of conceptual designs and, as the Administrator determines appropriate, production of non-nuclear prototypes of components or subsystems; and

“(D) examine and recommend actions for significantly shortening timelines and significantly reducing costs associated with design, development, certification, and production of the warhead, without reducing worker or public health and safety.

“(2) TIMING.—The Administrator shall—

“(A) during fiscal year 2018, develop a plan to carry out paragraph (1); and

“(B) during fiscal year 2019, implement such plan.

“(c) BRIEFING.—Not later than March 1, 2018, the Administrator, in coordination with the Chairman, shall provide a briefing to the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] on the plan of the Administrator to carry out the warhead design competition under subsection (b). Such briefing shall include an assessment of the costs, benefits, risks, and opportunities of such plan, particularly impacts to ongoing life extension programs and infrastructure projects.”

PLAN FOR DEVELOPING EXASCALE COMPUTING AND INCORPORATING SUCH COMPUTING INTO THE STOCKPILE STEWARDSHIP PROGRAM

Pub. L. 113–66, div. C, title XXXI, § 3129, Dec. 26, 2013, 127 Stat. 1066, provided that:

“(a) PLAN REQUIRED.—The Administrator for Nuclear Security shall develop and carry out a plan to develop exascale computing and incorporate such computing into the stockpile stewardship program under section 4201 of the Atomic Energy Defense Act (50 U.S.C. 2521) during the 10-year period beginning on the date of the enactment of this Act [Dec. 26, 2013].

“(b) MILESTONES.—The plan required by subsection (a) shall include major programmatic milestones in—

“(1) the development of a prototype exascale computer for the stockpile stewardship program; and

“(2) mitigating disruptions resulting from the transition to exascale computing.

“(c) COORDINATION WITH OTHER AGENCIES.—In developing the plan required by subsection (a), the Administrator shall coordinate, as appropriate, with the Under Secretary of Energy for Science, the Secretary of Defense, and elements of the intelligence community (as defined in section 3(4) of the National Security Act of 1947 (50 U.S.C. 3003(4))).

“(d) INCLUSION OF COSTS IN FUTURE-YEARS NUCLEAR SECURITY PROGRAM.—The Administrator shall—

“(1) address, in the estimated expenditures and proposed appropriations reflected in each future-years nuclear security program submitted under section 3253 of the National Nuclear Security Administration Act (50 U.S.C. 2453) during the 10-year period beginning on the date of the enactment of this Act, the costs of—

“(A) developing exascale computing and incorporating such computing into the stockpile stewardship program; and

“(B) mitigating potential disruptions resulting from the transition to exascale computing; and

“(2) include in each such future-years nuclear security program a description of the costs of efforts to develop exascale computing borne by the National Nuclear Security Administration, the Office of Science of the Department of Energy, other Federal agencies, and private industry.

“(e) SUBMISSION TO CONGRESS.—The Administrator shall submit the plan required by subsection (a) to the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] with each summary of the plan required by subsection (a) of section 4203 of the

Atomic Energy Defense Act (50 U.S.C. 2523) submitted under subsection (b)(1) of that section during the 10-year period beginning on the date of the enactment of this Act.

“(f) EXASCALE COMPUTING DEFINED.—In this section, the term ‘exascale computing’ means computing through the use of a computing machine that performs near or above 10 to the 18th power floating point operations per second.”

§ 2522. Stockpile stewardship criteria

(a) Requirement for criteria

The Secretary of Energy shall develop clear and specific criteria for judging whether the science-based tools being used by the Department of Energy for determining the safety and reliability of the nuclear weapons stockpile are performing in a manner that will provide an adequate degree of certainty that the stockpile is safe and reliable.

(b) Coordination with Secretary of Defense

The Secretary of Energy, in developing the criteria required by subsection (a), shall coordinate with the Secretary of Defense.

(Pub. L. 107–314, div. D, title XLII, § 4202, formerly Pub. L. 105–261, div. C, title XXXI, § 3158, Oct. 17, 1998, 112 Stat. 2257; Pub. L. 106–65, div. A, title X, § 1067(3), Oct. 5, 1999, 113 Stat. 774; renumbered Pub. L. 107–314, div. D, title XLII, § 4202, by Pub. L. 108–136, div. C, title XXXI, § 3141(e)(3), Nov. 24, 2003, 117 Stat. 1758; Pub. L. 111–84, div. C, title XXXI, § 3112, Oct. 28, 2009, 123 Stat. 2703; Pub. L. 112–239, div. C, title XXXI, § 3133(b)(1), (2), Jan. 2, 2013, 126 Stat. 2192.)

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CODIFICATION

Section was formerly set out as a note under section 2121 of Title 42, The Public Health and Welfare, prior to renumbering by Pub. L. 108–136.

AMENDMENTS

2013—Pub. L. 112–239, § 3133(b)(2), substituted “Stockpile stewardship criteria” for “Report on stockpile stewardship criteria” in section catchline.

Subsecs. (c), (d). Pub. L. 112–239, § 3133(b)(1), struck out subsecs. (c) and (d), which related, respectively, to report and definitions.

2009—Subsec. (c). Pub. L. 111–84, § 3112(a), amended subsec. (c) generally. Prior to amendment, subsec. (c) required submission of report not later than Mar. 1, 2000, to Congressional committees on Department of Energy efforts to develop subsec. (a) criteria.

Subsec. (d). Pub. L. 111–84, § 3112(b), added subsec. (d).

1999—Subsec. (c). Pub. L. 106–65 substituted “Committee on Armed Services” for “Committee on National Security” before “of the House of Representatives”.

§ 2523. Nuclear weapons stockpile stewardship, management, and responsiveness plan

(a) Plan requirement

The Administrator, in consultation with the Secretary of Defense and other appropriate officials of the departments and agencies of the Federal Government, shall develop and annually update a plan for sustaining the nuclear weapons stockpile. The plan shall cover, at a minimum, stockpile stewardship, stockpile management, stockpile responsiveness, stockpile surveillance, program direction, infrastructure