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Introduction

Responsibility for U.S. nuclear weapons resides with both the U.S. Department of Defense (DOD) and the U.S. Department of Energy (DOE). DOD develops, deploys, and operates the missiles and aircraft that can deliver nuclear warheads. It also generates the military requirements for the warheads carried on those platforms, derived from presidential guidance. The National Nuclear Security Administration (NNSA), a semiautonomous agency within the DOE, oversees the research, development, test, and acquisition programs that produce, maintain, and sustain the warheads.¹

NNSA is also responsible for storing and securing the warheads that are not deployed and for dismantling warheads that have been retired and removed from the stockpile. It manages and sets policy for the U.S. nuclear weapons complex, consisting of eight sites in seven states. These sites include three laboratories (Los Alamos National Laboratory, NM; Lawrence Livermore National Laboratory, CA; and Sandia National Laboratories, NM and CA); four production sites (Kansas City Plant, MO; Pantex Plant, TX; Savannah River Site, SC; and Y-12 National Security Complex, TN); and the Nevada National Security Site (formerly Nevada Test Site).²

Congress authorizes funding for both DOD and NNSA nuclear weapons activities in the annual National Defense Authorization Act (NDAA) and provides funding for the NNSA through the Energy and Water Development Appropriations Act. NNSA operates three programs, each of which receives funding in a dedicated appropriation account: Defense Nuclear Nonproliferation, Naval Reactors, and Weapons Activities. The last program is the subject of this report.

The Weapons Activities appropriation account supports U.S. nuclear warheads and associated components, provides the materials and components for those weapons, and sustains and modernizes the infrastructure that supports that mission. According to the NNSA, the Weapons Activities account provides for “the maintenance and refurbishment of nuclear weapons to continue sustained confidence in their safety, reliability, and performance; continued investment in scientific, engineering, and manufacturing capabilities to enable production and certification of the enduring nuclear weapons stockpile; and manufacture of nuclear weapon components.”

NNSA’s budget request for FY2024 seeks \$18.83 billion for Weapons Activities, \$1.72 billion (10.0%) more than the enacted funding of \$17.12 billion in FY2023, within a total budget of \$23.85 billion for NNSA.

Selected Major Activities

The FY2024 budget requested \$18.83 billion for nuclear Weapons Activities—1.72 billion (10%) more than the FY2023 enacted level.³ The FY2024 request contains funding to continue its five nuclear warhead modernization programs and modernize NNSA production and research facilities, as well as funding to support future plutonium pit production at the Savannah River Site and Los Alamos National Laboratory. The Weapons Activities appropriation is organized into four

¹ For a history of the nuclear weapons program and related topics, see U.S. Department of Energy, National Nuclear Security Administration, “NNSA Timeline,” at <https://www.energy.gov/articles/history-energy-departments-role-nuclear-security>.

² For details on the sites in the Nuclear Weapons Complex, see CRS Report R45306, *The U.S. Nuclear Weapons Complex: Overview of Department of Energy Sites*.

³ U.S. Department of Energy, *Department of Energy FY 2024 Budget in Brief, FY 2024 Congressional Justification, March 2023*, p. 15, at <https://www.energy.gov/sites/default/files/2023-05/doe-fy2024-budget-in-brief-v4.pdf>.

main mission areas, after being reorganized and renamed in FY2021. These programs, each with a request of over \$2.5 billion for FY2024, include the following:

- **Stockpile Management.** The budget requested \$250.80 million (5.1%) more funding for FY2024 than was enacted in FY2023 to support work on nuclear warhead life extension programs, warhead surveillance and quality assurance, maintenance, and related activities.
- **Production Modernization.** The budget requested \$439.20 million (8.6%) more funding for FY2024 than was enacted in FY2023 for programs that focus on maintaining and expanding the production capabilities for nuclear weapons components critical to weapons performance.⁴
- **Stockpile Research, Technology, and Engineering.** The budget requested \$246.60 million (8.4%) more funding for FY2024 than was enacted in FY2023 for programs that provide the scientific foundation for the current and future stockpile. This category replaces the Research, Development, Test and Evaluation program area.
- **Infrastructure and Operations (I&O).** The budget requested \$164.5 million (6.3%) more funding for FY2024 than was enacted in FY2023 for programs to maintain, operate, and modernize NNSA’s infrastructure. This category is intended to support construction of new facilities and funds deferred maintenance in older facilities.

In addition to these activities, NNSA also requested in the budget a total of \$383.1 million (21.4%) more funding for FY2024 than was enacted in FY2023 for several other programs, such as the Secure Transportation Asset, Defense Nuclear Security, Information Technology and Cybersecurity, and Legacy Contractor Pensions (see **Table 1**).

Table 1. Funding for Weapons Activities by Major Category, FY2021-FY2024 Request
(millions of current dollars)

Program	FY2021 Enacted	FY2022 Enacted	FY2023 Enacted	FY2024 Request	\$ Change (FY2024 Request-FY2023 Enacted)	% Change (FY2024 Request-FY2023 Enacted)
Stockpile Management	4,290.2	4,637.7	4,954.1	5,204.9	250.79	5.1%
Production Modernization	3,903.5	4,156.9	5,116.7	5,555.9	439.22	8.6%
Stockpile RT&E*	3,003.5	2,866.1	2,950.0	3,196.6	246.65	8.4%
I&O	2,542.1	2,487.4	2,602.6	2,767.1	164.55	6.3%
Other**	1,605.7	1,663.6	1,787.0	2,170.1	383.10	21.4%
Total	15,345	15,920	17,116	18,833	1,716.83	10.0%

Source: NNSA Congressional Budget Requests, House and Senate Appropriations Committee reports.

Notes: Totals may not sum due to rounding. RDT&E: Research, Development, Test and Evaluation; I&O: Infrastructure and Operations. *Stockpile RT&E: Beginning in FY2024, Academic Programs, which had previously been within the Stockpile RT&E Program, will be its own separate program. **Other: Secure Transportation

⁴ For example, according to NNSA, these include primaries, canned subassemblies, radiation cases, and non-nuclear components.

Asset, Defense Nuclear Security, Information Technology and Cybersecurity, and Legacy Contractor Pensions and Settlement Payments, and Academic Programs beginning in FY2024.

Stockpile Management

According to NNSA's FY2024 budget materials, the Stockpile Management requirements "maintain a safe, secure, and effective nuclear weapons stockpile."⁵ The activities in this program area include warhead life extension, modification, and design efforts; the annual assessment process for the current active stockpile; stockpile sustainment activities; warhead dismantlement activities; and sustainment of manufacturing capabilities and capacities. The Stockpile Management program includes five subprograms:

- **Stockpile Major Modernization:** includes continuing activities for the B61-12 Life Extension Program (LEP), W88 Alteration (ALT) 370, W80-4 LEP, W87-1 Modification program, and a feasibility study for the W93 program. The FY2024 budget does not include funding for the W80-4 Sea-Launched Cruise Missile Alteration.
- **Stockpile Sustainment:** includes activities to maintain and develop each Stockpile System and Multi-Weapons System. According to NNSA, Stockpile Sustainment executes "maintenance, surveillance, assessment, surety, and management activities for all enduring weapons systems in the stockpile. The program includes the B61, W76, W78, W80, B83, W87, and W88 Stockpile Systems, and Multi-Weapon Systems."⁶
- **Weapons Dismantlement and Disposition:** includes funding for the interim storage of warheads awaiting dismantlement, funding for actual dismantlement, and funding for the disposition of warhead components and materials.
- **Production Operations:** sustains manufacturing capabilities and capacities, including weapons assembly and disassembly, component production, surveillance, and weapon safety and reliability testing.
- **Nuclear Enterprise Assurance (NEA):** a program introduced in FY2023, NEA "actively manages subversion risks to the nuclear weapons stockpile and associated design, production, and testing capabilities."⁷ See **Table 2.**⁸

⁵ U.S. Department of Energy, *Department of Energy, FY 2024 Congressional Justification, National Nuclear Security Administration, Federal Salaries and Expenses, Weapons Activities, Defense Nuclear Nonproliferation, Naval Reactors, March 2023, Office of the Chief Financial Officer, Volume I*, p. 121 (of the PDF), at <https://www.energy.gov/sites/default/files/2023-03/doe-fy-2024-budget-vol-1-nnsa.pdf>.

⁶ *Ibid.*

⁷ *Ibid.*

⁸ *Ibid.*, p. 105.

Table 2. Weapons Activities Funding by Warhead Program, FY2021-FY2024 Request
(dollars in millions)

Program	Associated DOD System	FY2021 Enacted	FY2022 Enacted	FY2023 Enacted	FY2024 Request	\$ Change (FY2024 Request-FY2023 Enacted)	% Change (FY2024 Request-FY2023 Enacted)
B61-12 LEP	Nuclear-Capable Aircraft/Bomber	815.71	771.66	672.02	449.85	-222.17	-33.1%
W88 Alt 370	Submarine-Launched Ballistic Missile	256.92	207.16	162.06	178.82	16.76	10.3%
W80-4 LEP	Air-Launched Cruise Missile	1,000.31	1,080.40	1,122.45	1,009.93	-112.52	-10.0%
W87-1 Modification	Intercontinental Ballistic Missile	541.00	691.03	680.13	1,068.91	388.78	57.2%
W93	Submarine-Launched Ballistic Missile	53.00	72.00	240.51	389.66	149.15	62.0%

Source: Department of Energy FY2023 Budget Request; Department of Energy FY2024 Budget Request.

Production Modernization

According to NNSA’s FY2024 budget materials, the Production Modernization program is tasked with “production capabilities for nuclear weapons components critical to weapon performance, including primaries, secondaries, radiation cases, and non-nuclear components.”⁹ The highest spending category in NNSA’s FY2024 budget request, the Production Modernization program includes five subprograms:

- **Primary Capability Modernization:** includes plutonium pit modernization and high explosives modernization. In its FY2024 budget request, NNSA states that it “remains committed to achieving the pit production capability goals on the path to 80 [pits per year].”¹⁰
- **Secondary Capability Modernization:** includes uranium modernization, depleted uranium modernization, and lithium modernization. This category’s budget request reflected a 46.8% increase in funding, largely to support the Uranium Production Facility at Y-12 National Security Complex.
- **Tritium Modernization and Domestic Uranium Enrichment Program:** the Tritium Modernization portion of this program funds activities needed to produce, recover, and recycle the tritium gas used in U.S. nuclear weapons, while the Domestic Uranium Enrichment Program is designed to ensure a reliable supply of enriched uranium to support U.S. national security and nonproliferation needs.

⁹ Ibid., p. 10.

¹⁰ Ibid., p. 167.

- Non-Nuclear Capability Modernization: according to NNSA, this program area funds capabilities necessary for the “design, qualification, production, and surveillance of non-nuclear components for multiple weapon systems.”¹¹
- Capability Based Investments Program: according to NNSA, this program “executes projects for equipment, tools, supporting facilities, and infrastructure directly related to enduring, multi-program weapon activity capabilities, mission deliverables, and management of programmatic risk across the nuclear security enterprise.”¹²

Stockpile Research, Technology, and Engineering

According to NNSA’s FY2024 budget materials, the Stockpile Research, Technology, and Engineering program “provides the knowledge and expertise needed to maintain confidence in the nuclear stockpile without the need for underground nuclear explosive testing.”¹³ It funds not only science and engineering programs, but also large experimental facilities, such as the Enhanced Capabilities for Subcritical Experiments (ECSE) program, the Nevada National Security Site (NNSS), and NNSA’s first Exascale high performance computing system at Livermore Laboratory.¹⁴ The Stockpile Research, Technology, and Engineering program includes six subprograms:

- Assessment Science: this program area performs experiments to obtain the materials and nuclear data required to validate and understand the physics of nuclear weapons performance, and pursues activities that develop, exercise, and maintain the expertise of NNSA’s nuclear weapon design, engineering, and assessment community.
- Engineering and Integrated Assessments: this program area aims to ensure that current and future nuclear weapons systems are survivable and adaptable. This includes developing advanced weapons capabilities as well as certification and qualification capabilities.
- Inertial Confinement Fusion: this program area focuses on High Energy Density (HED) science capability development for nuclear weapons applications. This includes funding for the National Ignition Facility (NIF) at Lawrence Livermore National Laboratory.
- Advanced Simulation and Computing: this program area supports stockpile stewardship with advanced modeling and computing capabilities to support maintaining confidence in the nuclear stockpile without underground explosive testing.
- Weapon Technology and Manufacturing Maturation: according to NNSA budget documents, this program area provides “agile, assured, and affordable technologies; partnership with stakeholders to meet stockpile and customer

¹¹ Ibid., p. 159.

¹² Ibid.

¹³ Ibid., p. 10.

¹⁴ For additional information on Exascale, see Exascale Computing Project at <https://www.exascaleproject.org/research-group/national-security/>.

requirements; qualification and certification; [and] developing a skilled technical workforce and establishing enhanced capabilities.”¹⁵

Infrastructure and Operations

According to NNSA budget materials, the Infrastructure and Operations Program “maintains, operates, and modernizes NNSA’s infrastructure,” which includes planning and constructing all NNSA support facilities except for complex-construction projects (which are funded by that specific capability sponsor).¹⁶ NNSA Administrator Jill Hruby noted in her 2022 testimony that NNSA must invest in infrastructure to “rebuild capabilities lost in the 1990s.”¹⁷

Selected Legislative Activity

FY2023 Authorizations

The James M. Inhofe National Defense Authorization Act for Fiscal Year 2023 (NDAA; P.L. 117-263) authorized \$17.360 billion for NNSA Weapons Activities—\$873.5 million (5.3%) more than the requested amount (see **Table 3**).

Table 3. Funding Authorized for NNSA Weapons Activities in FY2023 NDAA
(in billions of dollars of budget authority)

Requested	House-passed NDAA (H.R. 7900)	SASC-Reported NDAA (S. 4543)	Enacted NDAA (P.L. 117-263)
\$16.486	\$17.211	\$17.090	\$17.360

Source: H.Rept. 117-397 (Part 1) accompanying H.R. 7900, p. 408; S.Rept. 117-130 accompanying S. 4543, p. 382; and the explanatory statement accompanying P.L. 117-263, as published in U.S. Congress, House Committee on Armed Services, *James M. Inhofe National Defense Authorization Act for Fiscal Year 2023 Legislative Text and Joint Explanatory Statement to Accompany H.R. 7776 P.L. 117-263 Book 2 of 2*, committee print, 118th Cong., 1st sess., 50-665, January 2023, p. 2171.

Notes: SASC is Senate Armed Services Committee.

FY2023 Appropriations

The Energy and Water Development and Related Agencies Appropriations Act, 2023 (Division D of P.L. 117-328) provided \$17.116 billion for NNSA Weapons Activities—\$629.8 million (3.8%) more than the requested amount (see **Table 4**).¹⁸

¹⁵ U.S. Department of Energy, *Department of Energy, FY 2024 Congressional Justification, National Nuclear Security Administration, Federal Salaries and Expenses, Weapons Activities, Defense Nuclear Nonproliferation, Naval Reactors, March 2023, Office of the Chief Financial Officer, Volume 1*, p. 96 (of the PDF), at <https://www.energy.gov/sites/default/files/2023-03/doe-fy-2024-budget-vol-1-nnsa.pdf>.

¹⁶ Ibid.

¹⁷ Testimony of the NNSA Director Jill Hruby, in U.S. Congress, Senate Committee on Appropriations, Subcommittee on Energy and Water Development, *A Review of the Fiscal Year 2023 Budget Submission for National Nuclear Security Administration*, hearings, 117th Cong., 2nd sess., May 18, 2022, at <https://www.appropriations.senate.gov/download/hruby-testimony-2022>.

¹⁸ For more background and analysis on this legislation, see CRS Report R47293, *Energy and Water Development: FY2023 Appropriations*, by Mark Holt and Anna E. Normand.

Table 4. Funding Appropriated for NNSA Weapons Activities in FY2023 Energy and Water Appropriations Act

(in billions of dollars of budget authority)

Requested	HAC-reported act (H.R. 8255)	SAC-released act (S. 4660)	Enacted act (Division D of P.L. 117-328)
\$16.486	\$16.333	\$16.986	\$17.116

Source: H.Rept. 117-394 accompanying H.R. 8255, p. 317; explanatory statement accompanying SAC-released draft of S. 4660; and explanatory statement accompanying P.L. 117-328, as published in U.S. Congress, House Committee on Appropriations, *Consolidated Appropriations Act, 2023 Committee Print of the Committee on Appropriations U.S. House of Representatives on H.R. 2617/P.L. 117-328 [Legislative Text and Explanatory Statement] Book 1 of 2, Divisions A-F*, committee print, 117th Cong., 2nd sess., 50-347, 2023, p. 1052.

Notes: HAC is House Appropriations Committee; SAC is Senate Appropriations Committee.

Issues for Congress

Congressional oversight activities for these programs could include hearings, annual appropriations and authorizations, reporting requirements, or site visits.

Program Schedules

During the 2010s, NNSA prioritized life extension programs and research and development at the expense of deferred maintenance of production facilities. NNSA is currently modernizing many of its capabilities and the infrastructure required to produce them, which Administrator Hruby said was its “biggest challenge” in her 2022 testimony to Congress.¹⁹ Some analysts have questioned NNSA’s ability to complete these projects on time. A 2022 RAND study on the nuclear enterprise workforce found that one potential issue is the ability of the nuclear enterprise to “handle the sheer number and scope of activities associated with nuclear modernization programs.”²⁰

Congress regularly reviews NNSA’s program schedules during the annual budget cycle and has directed the Government Accountability Office (GAO) to give testimony, publish reports documenting delays, and offer its recommendations. The GAO has published several reports that express concern with specific NNSA program areas. During a March 3, 2020, House Armed Services Committee hearing, Allison Bawden of the GAO raised concerns about the size and scope of NNSA’s budget request for FY2021. She noted that “the nuclear security enterprise is embarking on its most ambitious level of effort since the Cold War era, and NNSA is currently managing four weapon modernization programs, proposing a fifth, and undertaking infrastructure projects that affect every strategic material and component used in nuclear weapons.”²¹ She also

¹⁹ Hearing to Receive Testimony on the Nuclear Weapons Council, U.S. Senate Subcommittee on Strategic Forces, Committee on Armed Services, May 4, 2022. https://www.armed-services.senate.gov/imo/media/doc/22-37_05-04-2022.pdf.

²⁰ Laura Werber et al., *Is the National Nuclear Enterprise Workforce Postured to Modernize the Triad?*, RAND Corporation, 2022, at https://www.rand.org/content/dam/rand/pubs/research_reports/RRA1200/RRA1227-1/RAND_RRA1227-1.pdf.

²¹ John M. Donnelly, “Undisclosed delays plague atomic programs, cost billions to fix,” *Congressional Quarterly*, March 19, 2020, <https://plus.cq.com/doc/news-5863379?0&searchId=4tcMmrz2>. See also Allison Bawden, “Nuclear Weapons: NNSA’s Modernization Efforts Would Benefit from a Portfolio Management Approach,” GAO-20-443T, Testimony before the House Armed Services Committee Subcommittee on Strategic Forces, March 3, 2020. <https://www.gao.gov/products/gao-20-443t>.

noted that “because NNSA uses the same production infrastructure for each weapon program and capacity is limited, each program’s schedule can impact the next.”²²

In FY2021, Congress expressed concerns about NNSA’s pit production plans. It mandated that NNSA provide a plan outlining an integrated master schedule for “all pit production-related project and program activities” going forward. Both the House and the Senate Energy and Water Development Appropriations Subcommittees again stressed their concerns about these programs in their FY2022 appropriations reports.²³ Both noted that NNSA had not yet submitted the required integrated master schedule. A January 2023 GAO report on plutonium pit production stated that NNSA still lacks a “comprehensive schedule or cost estimate that meets GAO best practices.”²⁴ In response to Senator Kennedy’s question about how to get pit production “back on track” at a May 2023 Senate Appropriations hearing, NNSA Administrator Hruby said, “The most important thing we have to do to get pit production back on track is to finish our designs, get craftworkers in the facilities, and that is happening. We have great confidence—between changes we are making in our processes, getting people on board, doing equipment pre-buys, particularly for glove boxes which are limited manufacturers in the United States—that we will be able to make pits. We are going to be late, we are trying to catch up.”²⁵

The 2022 Nuclear Posture Review (NPR), a DOD document on U.S. “nuclear strategy, policy, posture, and forces,” calls for NNSA to develop a “Production Based Resilience Program” to “complement the science-based stewardship program and ensure that the nuclear security enterprise is capable of full-scope production.”²⁶ The NPR asserts that this program will address “all elements of the enterprise,” and NNSA leadership has stated that its FY23 budget request is informed by the NPR. In a 2023 speech, Administrator Hruby said that production-based resilience entailed building an enterprise that is meant to “be flexible and scale more readily,” “be more resilient to outages and failures” and “have modern capabilities to attract the best talent, to be efficient, and to deliver the highest quality products.”²⁷

Program Costs

NNSA’s Weapons Activities funding category has steadily increased in recent years, and the FY2023 request continued this trend with a \$1.4 billion increase. Congress has expressed

²² Ibid.

²³ S.Rept. 117-36 - ENERGY AND WATER DEVELOPMENT APPROPRIATIONS BILL, 2022, S.Rept. 117-36, 117th Cong. (2023), <https://www.congress.gov/congressional-report/117th-congress/senate-report/36/1>; H.Rept. 117-98 - ENERGY AND WATER DEVELOPMENT AND RELATED AGENCIES APPROPRIATIONS BILL, 2022, H.Rept. 117-98, 117th Cong. (2023), <https://www.congress.gov/congressional-report/117th-congress/house-report/98/1>.

²⁴ U.S. Government Accountability Office, *Nuclear Weapons: NNSA Does Not Have a Comprehensive Schedule or Cost Estimate for Pit Production Capability*, GAO-23-104661, January 12, 2023, at <https://www.gao.gov/products/gao-23-104661>.

²⁵ Testimony of the NNSA Director Jill Hruby, in U.S. Congress, Senate Committee on Appropriations, Subcommittee on Energy and Water Development, *A Review of the Fiscal Year 2024 Budget Submission for National Nuclear Security Administration*, hearings, 117th Cong., 2nd sess., May 3, 2023, at <https://www.appropriations.senate.gov/hearings/a-review-of-the-fiscal-year-2024-budget-request-for-the-us-department-of-energy-including-the-national-nuclear-security-administration>.

²⁶ U.S. Department of Defense, *2022 National Defense Strategy*, October 27, 2022, at <https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.PDF>. See also CRS In Focus IF12357, *2022 Nuclear Posture Review: Selected Programmatic Issues*, by Alexandra G. Neenan.

²⁷ NNSA Administrator Jill Hruby’s Remarks for the 17th Annual Symposium on Strategic Weapons in the 21st Century 0 Nuclear Deterrence at the ‘Inflection Point,’ April 27, 2023.

concerns about cost growth and transparency in NNSA's programs during its budget hearings. These concerns have focused on both major construction projects and weapons refurbishment programs.²⁸

NNSA's FY2021 budget requests asked for \$19.6 billion, a \$3.1 billion increase from the FY2020 budget, which press reports indicated was derived from internal NNSA documents stating these increases were "devoted substantially to covering previously undisclosed cost overruns."²⁹

Several independent assessments of NNSA's program of record have expressed concern with the potential for cost overruns. In a 2019 report, the GAO noted that "missed milestones have the potential to increase costs and further delay schedules," and that NNSA has a "history of program management challenges that have resulted in significant cost overruns."³⁰

Interdependencies with DOD Programs

While the DOD and NNSA work together to try to ensure that their schedules are aligned, including mitigating schedule delays, many of DOD's nuclear modernization programs are dependent on NNSA to deliver its associated components in a timely manner. The 2022 Nuclear Posture review notes that "there is little or no margin between the end of life of existing systems and their replacements."³¹

For example, the next-generation Intercontinental Ballistic Missile (ICBM), the LGM-35 Sentinel, is expected to field W87-0 and W87-1, the latter of which is expected to field its First Production Unit (FPU) in FY2030, a year after the Sentinel is expected to come online.

²⁸ See for example, "Hearing to Receive Testimony on the Department of Energy's Atomic Energy Defense Activities and Department of Defense Nuclear Weapons Programs in Review of the Defense Authorization Request for Fiscal Year 2024 and the Future Years Defense Program," Subcommittee on Strategic Forces, Senate Armed Services Committee, April 18, 2023; and "Hearing to Receive Testimony on the Fiscal Year 2024 President's Budget Request for U.S. Nuclear Weapon and Warhead Modernization and Sustainment Plans, as well as the Administration's Nuclear Policy and Programmatic Priorities," Subcommittee on Strategic Forces, House Armed Services Committee, March 28, 2023.

²⁹ John M. Donnelly, "Undisclosed delays plague atomic programs, cost billions to fix," *CQ News*, March 19, 2020, at <https://plus.cq.com/doc/news-5863379?0&searchId=4tcMmrz2>.

³⁰ U.S. Government Accountability Office, *Nuclear Security Enterprise: NNSA Should Use Portfolio Management Leading Practices to Support Modernization Efforts*, GAO-21-398, June 9, 2021, at <https://www.gao.gov/products/gao-21-398>.

³¹ U.S. Department of Defense, *2022 National Defense Strategy*, October 27, 2022, at <https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.PDF>.

Should NNSA face unexpected delays for any of its major production capabilities, this may impact DOD programmatic and operational requirements. Congressional committees have questioned executive branch officials about the impact of the delays on DOD. GAO reported in a June 2023 report that “[a]ccording to DOD officials, current nuclear weapons exceptions and limitations do not constrain their ability to store, maintain, or operate nuclear weapons.” However, the report noted that the officials also said “future flexibility may decline because of stockpile aging.”³²

Congress may continue to track progress on meeting program goals, particularly as part of the annual budget cycle hearings.

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³² U.S. Government Accountability Office, *Nuclear Weapons: Technical Exceptions and Limitations Do Not Constrain DOD’s Planning and Operations*, GAO-23-105671, March 9, 2023, at <https://www.gao.gov/products/gao-23-105671>.