



September 2018

# NUCLEAR NONPROLIFERATION

The Administration's  
2018 Plan for  
Verification and  
Monitoring Met Most  
Reporting  
Requirements but Did  
Not Include Future  
Costs and Funding  
Needs

# GAO Highlights

Highlights of [GAO-18-617](#), a report to congressional committees

## Why GAO Did This Study

Countering the proliferation of nuclear weapons is a national security priority that is challenged by weapons advances from existing nuclear states and other actors possessing or attempting to possess nuclear weapons. To help address these issues, Congress directed the Administration in 2015 and 2017 to develop a plan for verification and monitoring relating to the potential proliferation of nuclear weapons, components of such weapons, and fissile material. GAO reviewed the first plan submitted to Congress in 2015, and an update submitted in 2017. GAO reported in March 2018 that this plan and update generally did not address the congressionally mandated reporting requirements.

In the fiscal year 2018 NDAA, Congress directed the Administration to develop another plan and included a provision for GAO to review the plan. This report assesses whether the Administration's new plan provided details on the reporting requirements included in the NDAA.

To determine whether the plan provided details on the reporting requirements, GAO reviewed the fiscal year 2018 plan and assessed whether the plan included details for each of the elements as required by the NDAA.

## What GAO Recommends

GAO recommends that the Administrator of NNSA should include in its plan estimates of future costs and funding needed to support the activities in the plan. NNSA neither agreed nor disagreed with the recommendation, but said it planned no further action. GAO maintains that the recommendation is valid.

View [GAO-18-617](#). For more information, contact David Trimble at (202) 512-3841 or [trimbled@gao.gov](mailto:trimbled@gao.gov).

September 2018

## NUCLEAR NONPROLIFERATION

# The Administration's 2018 Plan for Verification and Monitoring Met Most Reporting Requirements but Did Not Include Future Costs and Funding Needs

## What GAO Found

GAO found that the 2018 plan provided details on most of the reporting requirements in the National Defense Authorization Act (NDAA) for Fiscal Year 2018, but did not include information on future costs and funding needs (see table below). In the NDAA, Congress directed the President to produce a plan that would address four reporting requirements: (1) a plan and roadmap on verification, detection and monitoring efforts, including details on costs and funding needs over 10 years, (2) an international engagement plan, (3) a research and development plan, and (4) a description of interagency engagement. The National Nuclear Security Administration (NNSA), a separately organized agency within the Department of Energy, developed the plan and submitted it to Congress in April 2018.

### GAO Assessment of 2018 Verification and Monitoring Plan

| Reporting requirements        | GAO assessment  |
|-------------------------------|---|
| Plan and roadmap              | Partly addressed; did not provide details on future costs and funding needs |
| International engagement plan | Addressed with detail   |
| Research and development plan | Addressed with detail   |
| Interagency engagement        | Addressed with detail   |

Source: GAO analysis of National Nuclear Security Administration information. | GAO-18-617

According to NNSA officials, NNSA did not include long-term costs and funding needs in the plan because identifying these needs is unrealistic for several reasons, including because agencies have little influence over the spending priorities of other departments outside of the President's budget process. However, NNSA and other agencies already develop plans with long-term funding priorities and cost estimates for other programs. Because the plan does not include any estimates on future costs and funding needs, it limits congressional understanding of the long-term affordability of the nation's verification and monitoring efforts and its ability to make necessary funding and policy decisions. GAO has previously reported that providing estimates of future costs and funding needs can help congressional decisionmakers prioritize projects and identify long-term funding needs. By including in its plan estimates of future costs and funding needed to support the activities in the plan, NNSA could help provide assurance that agencies are allocating appropriate resources to the verification and monitoring effort and that these resources are aligned with future activities and processes.

---

# Contents

---

|             |  |    |
|-------------|--|----|
| Letter      |  | 1  |
|             | Background   | 3  |
|             | The Administration's 2018 Plan Generally Addressed the Reporting Requirements but Did Not Identify Costs and Funding Needs | 5  |
|             | Conclusion   | 9  |
|             | Recommendation for Executive Action  | 10 |
|             | Agency Comments and Our Evaluation   | 10 |
| Appendix I  | Comments from the Department of Energy   | 17 |
| Appendix II | GAO Contact and Staff Acknowledgments:   | 19 |
| Table       | Table 1: GAO Assessment of 2018 Verification and Monitoring Plan   | 5  |

---

---

---

## Abbreviations

|       |   |
|-------|---|
| CTBT  | Comprehensive Nuclear-Test-Ban Treaty   |
| CTBTO | Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization |
| DSB   | Defense Science Board   |
| IAEA  | International Atomic Energy Agency  |
| NDAA  | National Defense Authorization Act  |
| NNSA  | National Nuclear Security Administration  |
| NPT   | Treaty on the Non-Proliferation of Nuclear Weapons                                |
| R&D   | research and development  |
| WMD   | weapons of mass destruction   |

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.



September 14, 2018

Congressional Committees

In the National Defense Authorization Act (NDAA) for Fiscal Year 2018,<sup>1</sup> Congress included a provision directing the President to develop and submit to Congress a plan for verification and monitoring relating to the potential proliferation of nuclear weapons, components of such weapons, and fissile material.<sup>2</sup> This provision came out of issues that were highlighted in a 2014 report from the Department of Defense's Defense Science Board (DSB) on nonproliferation verification and monitoring technologies.<sup>3</sup> As a result of the DSB report, in the fiscal year 2015 and fiscal year 2017 NDAA's,<sup>4</sup> Congress directed the Administration to submit interagency plans for verification and monitoring.<sup>5</sup> The Administrations submitted a classified plan in October 2015 and a classified update to the plan in May 2017 in response to these mandates. We assessed the 2015 plan and 2017 update in March 2018 and found that they generally did not address the reporting requirements.<sup>6</sup>

---

<sup>1</sup>National Defense Authorization Act for Fiscal Year 2018, Pub. L. No. 115-91, §3136 (2017).

<sup>2</sup>Weapons-usable nuclear materials are often referred to as fissile materials or strategic special nuclear materials. Such materials are highly enriched uranium, uranium-233, and plutonium containing less than 7 percent of the isotope plutonium-240.

<sup>3</sup> Department of Defense, Defense Science Board, *Task Force Report: Assessment of Nuclear Monitoring and Verification Technologies*, (Washington, D.C.: January 2014).

<sup>4</sup> Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015, Pub. L. No. 113-291, §3133, 128 Stat. 3292, 3896 (2014); National Defense Authorization Act for Fiscal Year 2017, Pub. L. No. 114-328, §3132, 130 Stat. 2000, 2768 (2016).

<sup>5</sup>The fiscal year 2015 NDAA directed the President to develop and submit to Congress an interagency plan for verification and monitoring relating to proliferation. The fiscal year 2017 NDAA directed the President to provide Congress with a "comprehensive and detailed" update to the October 2015 plan.

<sup>6</sup>GAO, *Nuclear Nonproliferation: The Administration's 2015 Plan and 2017 Update for Nuclear Proliferation Verification and Monitoring Generally Did Not Address Reporting Requirements*, GAO-18-372RC (Washington, D.C.: Mar. 30, 2018); *Nuclear Nonproliferation: The Administration's 2015 Plan and 2017 Update for Nuclear Proliferation Verification and Monitoring Generally Did Not Address Reporting Requirements*, [GAO-18-505R](#) (Washington, D.C.: June 18, 2018).

---

In the fiscal year 2018 NDAA, Congress indicated that the 2015 plan and 2017 update failed to answer congressional requirements and did not reflect the high priority of this issue.<sup>7</sup> Further, the NDAA reiterated the DSB report's finding that "The nuclear future will not be a linear extrapolation of the past...and the technologies and processes designed for current treaty verification and inspections are inadequate to future monitoring realities." To address these issues, in the fiscal year 2018 NDAA Congress directed the President to produce a new plan that would address four reporting requirements: (1) a plan and roadmap on verification, detection, and monitoring efforts, including details on future costs and funding needs over 10 years; (2) an international engagement plan; (3) a research and development (R&D) plan to describe current and planned efforts; and (4) a description of interagency engagement. On behalf of the Administration, the National Nuclear Security Administration (NNSA) prepared, and the Department of Energy submitted, a classified plan to congressional committees in April 2018.<sup>8</sup>

The conference report accompanying the fiscal year 2018 NDAA includes a provision for GAO to review the plan and provide its assessment to congressional committees 90 days after submission of the plan.<sup>9</sup> The objective of this report is to assess whether the Administration's plan provided detail on the reporting requirements in the fiscal year 2018 NDAA.

To address this objective, we reviewed the 2018 plan. We assessed the content of the plan against the reporting requirements and rated the extent to which it provided detail on those requirements in one of three ways: (1) addressed the reporting requirement with detail, (2) addressed the reporting requirement without detail, or (3) did not address the reporting requirement. In assessing the level of detail, we considered key factors identified in our previous work on national strategies, federal

---

<sup>7</sup>§3136 (a).

<sup>8</sup>NNSA, a separately organized agency within the Department of Energy, is responsible for the management and security of the nation's nuclear weapons and nonproliferation programs.

<sup>9</sup>H.R. Conf. Rep. No. 115-404 at 1096 (2017).

---

planning, and interagency collaboration.<sup>10</sup> For example, we considered the extent to which the plan provided information regarding specific goals or objectives; strategies to achieve those goals or objectives and how they would be implemented; which agency or agencies would implement the strategies; and other measurable information, such as timelines and the resources required. We also interviewed officials at NNSA who led the development of the plan and coordinated with other contributing interagency partners.

We conducted this performance audit from May 2018 to August 2018 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

---

## Background

Countering the proliferation of nuclear weapons and other weapons of mass destruction (WMD) remains a U.S. national security priority. According to the 2017 National Security Strategy, terrorist groups continue to pursue WMD-related materials, which pose a grave danger to the United States.<sup>11</sup> As also stated in the 2017 National Security Strategy, Russia's nuclear arsenal remains the most existential threat to the United States, China's nuclear arsenal is growing and diversifying, Iran has the potential of renewing its nuclear program and North Korea has pursued nuclear weapons despite international commitments. As the DSB report noted, U.S. monitoring abilities are increasingly challenged by evolving risks in 1) the capability of existing nuclear states and 2) the number of state and nonstate actors possessing or attempting to possess nuclear

---

<sup>10</sup>These key factors are outlined in our previous work on characteristics of national strategies, federal planning, and enhancing collaboration in interagency groups. See GAO, *Managing for Results: Implementation Approaches Used to Enhance Collaboration in Interagency Groups*, [GAO-14-220](#) (Washington, D.C.: Feb. 14, 2014); *Environmental Justice: EPA Needs to Take Additional Actions to Help Ensure Effective Implementation*, [GAO-12-77](#) (Washington, D.C.: Oct. 6, 2011); *Results Oriented Government: Practices That Can Help Enhance and Sustain Collaboration Among Federal Agencies*, [GAO-06-15](#) (Washington, D.C.: Oct. 21, 2005); and *Combating Terrorism: Evaluation of Selected Characteristics in National Strategies Related to Terrorism*, [GAO-04-408T](#) (Washington, D.C.: Feb. 3, 2004).

<sup>11</sup>The White House, *National Security Strategy of the United States of America*, (Washington, D.C.: December 2017).

---

weapons. U.S. nonproliferation activities are conducted and coordinated across multiple government agencies and organizations, as well as the intelligence community.<sup>12</sup> In addition, these efforts are coordinated with international entities, national laboratories, industry, and academia.

U.S. nuclear nonproliferation verification and monitoring efforts are guided by, among other things, U.S. obligations under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and U.S. support for the Preparatory Commission for the Comprehensive Nuclear Test-Ban Treaty Organization (CTBTO). The NPT lays out the respective responsibilities of nuclear-weapon and nonnuclear-weapon states with regard to the transfer, acquisition, possession, control, and manufacture of nuclear weapons.<sup>13</sup> All nonnuclear-weapon states are required to have a comprehensive safeguards agreement with the International Atomic Energy Agency (IAEA) to facilitate IAEA's safeguards activities.<sup>14</sup> IAEA safeguards are a set of technical measures and activities by which IAEA seeks to verify that nuclear material subject to safeguards is not diverted to nuclear weapons or other proscribed purposes. Under the Comprehensive Nuclear Test-Ban Treaty (CTBT), which has yet to enter into force, parties agree not to carry out any nuclear explosions.<sup>15</sup> The United States supports the work of the CTBTO to build up a verification regime in preparation for the treaty's entry into force.

---

<sup>12</sup>Interagency partners include NNSA and the Department of Energy; the Departments of Defense, State, Homeland Security, Justice, Treasury, and Commerce; the National Security Council and the Office of Science and Technology Policy.

<sup>13</sup>Nuclear-weapon states are those that manufactured and exploded a nuclear weapon or other nuclear explosive device before January 1, 1967; nonnuclear-weapon states are those that had not. Nuclear-weapon states agree not to transfer possession or control of nuclear weapons or other nuclear explosive devices, or to in any way assist, encourage, or induce any nonnuclear-weapon state to manufacture or otherwise acquire or control such weapons or devices. Nonnuclear-weapon states agree not to take possession or control of or manufacture nuclear weapons or other nuclear explosive devices, not to seek or receive assistance in the manufacture of such weapons or devices, and to subject all nuclear material used in peaceful activities to International Atomic Energy Agency safeguards.

<sup>14</sup>The International Atomic Energy Agency—an independent international organization based in Vienna, Austria, and affiliated with the United Nations—has the dual mission of promoting the peaceful uses of nuclear energy and verifying that nuclear technologies and materials intended for peaceful purposes are not diverted to weapons development efforts.

<sup>15</sup>The United States is not party to the CTBT, but has observed a unilateral moratorium on nuclear explosive testing since 1992.

The Administration’s fiscal year 2018 plan for verification and monitoring described ongoing interagency efforts to support nuclear proliferation verification and monitoring and includes information about relevant national priorities, capability gaps, R&D initiatives, and roles and responsibilities.<sup>16</sup> The 2018 plan (40 pages) is longer and more detailed than the 2015 plan (2 pages) or the 2017 update (4 pages). The bulk of the 2018 plan is contained in two chapters—one chapter broadly describes U.S. and international efforts and roles and responsibilities, and the other chapter describes ongoing U.S. R&D efforts.

**The Administration’s 2018 Plan Generally Addressed the Reporting Requirements but Did Not Identify Costs and Funding Needs**

We found the Administration’s 2018 plan provided details on each of the four major reporting requirements called for in the fiscal year 2018 NDAA with the exception of future costs and funding needs (see table 1).

**Table 1: GAO Assessment of 2018 Verification and Monitoring Plan**

| Reporting requirements        | GAO assessment  |
|-------------------------------|---|
| Plan and roadmap              | Partly addressed; did not provide details on future costs and funding needs |
| International engagement plan | Addressed with detail   |
| Research and development plan | Addressed with detail   |
| Interagency engagement        | Addressed with detail   |

Source: GAO analysis of National Nuclear Security Administration information. | GAO-18-617

**Plan and Roadmap**

The first reporting requirement called for a plan and roadmap for verification, detection, and monitoring with respect to policy, operations, and research, development, testing, and evaluation, including—

- Identifying requirements for verification, detection, and monitoring;
- Identifying and integrating roles, responsibilities, and planning for verification, detection, and monitoring activities; and
- The costs and funding requirements over 10 years for these activities.

We found that the 2018 plan provided detail on verification, detection, and monitoring requirements and roles and responsibilities, but did not

<sup>16</sup>Department of Energy, *Plan for Verification, Detection and Monitoring of Nuclear Weapons and Fissile Material*, Report to Congress, (Washington, D.C.: Apr. 2018)

---

provide details on future costs and funding needed to support the activities in the plan.

We found that the plan identified requirements for verification, detection, and monitoring as required. To identify these requirements, the plan notes that interagency partners first identified a set of verification and monitoring priorities. From these priorities they identified a number of technical gaps. The plan then described dozens of examples of R&D efforts and non-technical activities to address those technical gaps. For example, for one gap the plan identifies eight current efforts to address this gap, including continued Department of Energy and NNSA investment in sensor capabilities that are small, light, and can operate in low power.

We found that the plan provided details on the requirement to identify and integrate roles and responsibilities and planning. The plan includes details of the roles and responsibilities of interagency partners and international bodies that cooperate in the nonproliferation realm. For example, the plan describes how the Department of Defense is to support U.S. verification activities under the CTBT, including the installation, operation, and maintenance of U.S. International Monitoring Systems.<sup>17</sup>

We found that the plan did not identify costs and funding needs over a 10-year period. NNSA officials stated that they believed providing funding information over a 10-year period is unrealistic for several reasons. First, according to NNSA officials, it is not feasible to achieve agreement on actual or implied budgets outside of the existing President's budget process. Second, according to NNSA officials, agencies have little influence over the funding priorities of other departments outside of existing budget efforts. Third, according to NNSA officials, long-term funding estimates are infeasible because the President's budget only identifies funding levels five years into the future. However, the 2018 NDAA did not ask for budget information. Instead, the NDAA reporting requirement called for long-term costs and funding information necessary to support the verification and monitoring activities in the plan. Finally, NNSA officials told us that they and officials from other agencies briefed the appropriate congressional committees prior to the release of the 2018 plan, and discussed the challenges with providing cost and funding data.

---

<sup>17</sup>The International Monitoring System consists of 321 monitoring stations and 16 laboratories around the world. Monitoring stations detect any signs of nuclear explosions using seismic, hydroacoustic, infrasound, or radionuclide detection technologies.

---

According to NNSA officials, they verified with the congressional committees that providing such information in the plan would be impractical.

We have previously reported that providing estimates of future costs and funding needs can help congressional decisionmakers prioritize projects and identify long-term funding needs.<sup>18</sup> NNSA as well as other agencies within the federal government already develop plans with long-term funding priorities and cost estimates. For example, in June 2014, we reported on 10-year estimates for sustaining and modernizing U.S. nuclear weapons capabilities.<sup>19</sup> As we found in this and other reports, even when budgets are preliminary or not yet known, plans that include a range of potential estimates help Congress prioritize projects and funding.<sup>20</sup> Because the plan does not include any information on interagency costs and funding needs, it limits 1) congressional understanding of the long-term affordability of the nation's verification and monitoring efforts and 2) Congress's ability to make necessary funding and policy decisions. By including in its plan estimates of future costs and funding needed to support the activities in the plan, NNSA could help provide assurance that agencies are allocating appropriate resources to the verification and monitoring effort.

In addition, including estimates of future costs and funding needs in the plan can help ensure that interagency partners understand the amount of resources necessary to support verification and monitoring efforts, and determine if these resources align with agency activities. We have previously reported on the importance of identifying resources among

---

<sup>18</sup>GAO, *Nuclear Weapons: Ten-Year Budget Estimates for Modernization Omit Key Efforts, and Assumptions and Limitations are Not Fully Transparent*, [GAO-14-373](#) (Washington, D.C.: June 10, 2014); *Modernizing the Nuclear Security Enterprise: NNSA's Budget Estimates Do Not Fully Align with Plans*, [GAO-14-45](#), (Washington, D.C.: Dec. 11, 2013).

<sup>19</sup>GAO, *Nuclear Weapons: Ten-Year Budget Estimates for Modernization Omit Key Efforts, and Assumptions and Limitations are Not Fully Transparent*, [GAO-14-373](#) (Washington, D.C.: June 10, 2014).

<sup>20</sup>GAO, *Modernizing the Nuclear Security Enterprise: NNSA's Budget Estimates Do Not Fully Align with Plans*, [GAO-14-45](#), (Washington, D.C.: Dec. 11, 2013).

---

collaborating agencies;<sup>21</sup> we noted that without information on resource contributions from partners in a collaborative effort, there is less assurance that agency contributions are appropriate to successfully sustain the effort. Similarly, providing information on future costs and funding needs is important to help interagency partners coordinate and develop long-term strategic plans that align with future interagency efforts. We have found that for strategic planning to be done well, plans should demonstrate alignment between activities, core processes, and resources that support mission outcome.<sup>22</sup> By including in its plan estimates of future costs and funding needed to support the activities in the plan, NNSA could help provide assurance that agencies are allocating appropriate resources for interagency efforts and that these resources are aligned with future activities and processes.

---

## International Engagement Plan

The second reporting requirement called for an international engagement plan for building cooperation and transparency—including bilateral and multilateral efforts—to improve inspections, detection, and monitoring activities. We found that the 2018 plan provided detail on this requirement. The 2018 plan reiterates the nation’s commitment to the NPT and includes information on IAEA’s safeguards programs and U.S support for those programs. For example, under the plan, interagency partners are to continue to encourage countries through diplomatic outreach to conclude Additional Protocol agreements with IAEA.<sup>23</sup>

---

## Research and Development Plan

The third reporting requirement called for the plan to describe current and planned R&D efforts toward improving monitoring, detection, and in-field inspection and analysis capabilities, including persistent surveillance,

---

<sup>21</sup>See for example, GAO, *Performance Partnerships: Agencies Need to Better Identify Resource Contributions to Sustain Disconnected Youth Pilot Programs and Data to Assess Pilot Results*, [GAO-17-208](#), (Washington, D.C.: Apr. 18, 2017) and *Managing for Results: Implementation Approaches Used to Enhance Collaboration in Interagency Groups*, [GAO-14-220](#), (Washington, D.C.: Feb. 14, 2014).

<sup>22</sup>See for example, GAO, *Agencies Strategic Plans Under GPRA: Key Questions to Facilitate Congressional Review*, [GAO/GGD-10.1.16](#), (Washington, D.C.: May 1997) and *Executive Guide: Effectively Implementing the Government Performance and Results Act*, [GAO/GGD-96-118](#), (Washington, D.C.: June, 1996).

<sup>23</sup>An Additional Protocol is a protocol to a safeguards agreement that provides IAEA with a broader range of information on a country’s nuclear and nuclear-related activities, including by giving the agency’s inspectors additional access to an expanded range of declared activities and locations.

---

remote monitoring, and rapid analysis of large data sets; and measures to coordinate technical and operational requirements early in the process. We found that the 2018 plan provided detail on this requirement. The plan includes detail on a wide range of R&D efforts and non-technical efforts that agencies are pursuing. For example, the plan reports that the Defense Advanced Research Projects Agency is starting a program that models millions of nodes and billions of connections to support the detection of WMD proliferation activities. In addition, the plan describes interagency groups involved in coordinating R&D requirements, such as the National Science and Technology Council Subcommittee on Nuclear Defense Research and Development.

---

## Interagency Engagement

The fourth reporting requirement called for the plan to describe the engagement of relevant federal departments and agencies; the military departments; national laboratories; industry; and academia. We found that the 2018 plan provided detail on this requirement. The plan includes detail on the roles and responsibilities for interagency partners, as well as information on interagency organizations and working groups to coordinate efforts and reduce duplication. For example, the plan discusses the Department of State's efforts to lead the interagency policy process on nonproliferation and manage global U.S. security policy, and the Department of Defense's support of U.S. diplomatic efforts, including agreements with other defense departments, R&D cooperation, and multinational exercises.

---

## Conclusion

This 2018 plan represents the third effort by Administrations to address the nation's nuclear proliferation verification and monitoring efforts. The 2018 plan provides more detail on these efforts than the 2015 plan and 2017 update. However, the plan does not include estimates of future costs and funding needs as required by the fiscal year 2018 NDAA. Costs and funding information can help congressional decisionmakers prioritize projects and identify potential long-term funding needs. Similarly, costs and funding information helps interagency partners understand what resources they are expected to contribute in the future and helps to ensure long-term strategic plans reflect an alignment between resources and interagency activities. By including in its plan estimates of future costs and funding needed to support the activities in the plan, NNSA could help provide assurance that agencies are allocating appropriate resources to the verification and monitoring effort and interagency activities, and that these resources are aligned with future activities and processes.

---

---

## Recommendation for Executive Action

We are making the following recommendation to NNSA:

The Administrator of NNSA should include in its plan for verification and monitoring estimates of future costs and funding needed to support the activities in the plan. (Recommendation 1)

---

---

## Agency Comments and Our Evaluation

We provided NNSA with a draft of this report for review and comment. NNSA provided written comments, which are summarized below and reproduced in appendix I; the agency neither agreed nor disagreed with our recommendation to include estimates of future costs and funding needed to support the activities in its plan for nuclear proliferation verification and monitoring. However, NNSA stated that it planned no further action with regard to costs and funding data. NNSA also provided technical comments, which we incorporated as appropriate.

NNSA stated that it appreciated our recognition of improvements in the 2018 plan for verification and monitoring over the 2015 plan and the 2017 update. In its written comments, NNSA acknowledged that it did not include interagency cost and funding requirements in the 2018 plan over 10 years as required in the NDAA. The agency stated that it briefed the appropriate congressional committees before the release of the plan about the challenges and feasibility of providing the cost and funding data and received no objections on the omission of the data from the plan. NNSA also stated that it informed us of the briefings. We have added clarification in our report that NNSA officials believed they received agreement from congressional staff to exclude funding and cost estimates from its plan.

NNSA stated that the NDAA did not prioritize the relative importance of the reporting requirements, and that we disproportionately weighted the one omission in our assessment, effectively overstating the importance of providing cost and funding information. In addition, NNSA identified challenges to the feasibility of providing interagency out-year cost and funding estimates, including the difficulty to quantify the level of R&D and associated funding required to achieve specific outcomes and that departments and agencies are unable to commit to aligning 10 year funding estimates with individual agencies' timelines and internal processes for planning, programming, budgeting, and execution.

NNSA's statement suggests that it views nuclear proliferation verification and monitoring programs as being unique and different from other federal programs and that they should therefore be exempt from estimating their

---

potential long-term resource burden on the federal budget. We disagree. Developing future cost and funding estimates for programs is central to effective interagency planning efforts. The efforts described in NNSA's 2018 nuclear verification and monitoring plan span a diverse range of activities that are implemented across multiple agencies. The absence of cost and funding estimates for these efforts in NNSA's plan raises questions as to whether there is an effective interagency process to coordinate these efforts and if the process is taking adequate account of resource constraints and making realistic assessments of program resource needs. In addition, information on future cost and funding estimates of federal programs provides Congress with a better understanding of the potential long-term funding needs and costs of the diverse efforts supporting the proliferation verification and monitoring mission. We believe this big picture view is important given the multiple congressional committees of jurisdiction—including appropriations, authorization, and oversight committees—for the efforts identified in NNSA's plan.

Regarding the feasibility of providing 10-year cost and funding estimates, we recognize the difficulty and uncertainty agencies face in estimating future funding needs. However, we do not believe developing such estimates is impossible. As we reported, the Department of Defense (DOD) and the Department of Energy (DOE) prepare an annual plan with 10 year cost and funding estimates for their ongoing nuclear sustainment and modernization efforts, including R&D efforts.

NNSA also provided general technical comments addressing our findings on the cost and funding estimates that were not included in the plan, including comments on NNSA's authority to obtain 10-year estimates from other agencies, and on the examples we cited of other interagency plans that include similar estimates.

NNSA stated that it did not have authority to require other agencies to submit 10-year budget estimates for their efforts that are included in the plan. We noted in our report that Congress directed the President to include this element in the nuclear proliferation verification and monitoring plan. However, responsibility to prepare and submit the plan was delegated by the President to DOE.

NNSA commented that the joint DOD-DOE annual nuclear sustainment and modernization plan is not comparable to the NNSA plan because the former primarily addresses capital projects and other material products, while the latter primarily addresses R&D activities. The reporting

---

requirements for NNSA's nuclear proliferation verification and monitoring plan were not limited to R&D efforts, but included cost and funding estimates for related activities and capabilities, including policy, operations, testing, and evaluation. NNSA's comment focuses only on the difficulty of addressing cost and funding estimates for only one aspect (R&D) of nuclear proliferation verification and monitoring and ignores the possibility that estimates for non-R&D efforts may be more feasible and less difficult to report. Moreover, we have reported that the joint DOD-DOE plan on nuclear modernization includes 10-year DOD and DOE estimates for R&D, as well as estimates for related modernization efforts, including infrastructure, nuclear weapon life extension programs, delivery systems, nuclear command, control, and communications systems, and other related activities.

---

We are sending copies of this report to the appropriate congressional committees, the Administrator of NNSA, and other interested parties. In addition, this report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-3841 or [trimbled@gao.gov](mailto:trimbled@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made significant contributions to this report are listed in appendix II.



David C. Trimble  
Director, Natural Resources and Environment

---

  

---

*List of Committees*

The Honorable Jim Inhofe  
Chairman  
The Honorable Jack Reed  
Ranking Member  
Committee on Armed Services  
United States Senate

The Honorable John Thune  
Chairman  
The Honorable Bill Nelson  
Ranking Member  
Committee on Commerce, Science, and Transportation  
United States Senate

The Honorable Lisa Murkowski  
Chairman  
The Honorable Maria Cantwell  
Ranking Member  
Committee on Energy and Natural Resources  
United States Senate

The Honorable Bob Corker  
Chairman  
The Honorable Bob Menendez  
Ranking Member  
Committee on Foreign Relations  
United States Senate

The Honorable Ron Johnson  
Chairman  
The Honorable Claire McCaskill  
Ranking Member  
Committee on Homeland Security and Governmental Affairs  
United States Senate

The Honorable Richard Burr  
Chairman  
The Honorable Mark Warner  
Vice Chairman  
Select Committee on Intelligence  
United States Senate

---

The Honorable Richard Shelby  
Chairman  
The Honorable Dick Durbin  
Ranking Member  
Subcommittee on Defense  
Committee on Appropriations  
United States Senate

The Honorable Lamar Alexander  
Chairman  
The Honorable Dianne Feinstein  
Ranking Member  
Subcommittee on Energy and Water Development  
Committee on Appropriations  
United States Senate

The Honorable Lindsey Graham  
Chairman  
The Honorable Patrick Leahy  
Ranking Member  
Subcommittee on State, Foreign Operations, and Related Programs  
Committee on Appropriations  
United States Senate

The Honorable Mac Thornberry  
Chairman  
The Honorable Adam Smith  
Ranking Member  
Committee on Armed Services  
House of Representatives

The Honorable Greg Walden  
Chairman  
The Honorable Frank Pallone  
Ranking Member  
Committee on Energy and Commerce  
House of Representatives

---

The Honorable Ed Royce  
Chairman  
The Honorable Eliot Engel  
Ranking Member  
Committee on Foreign Affairs  
House of Representatives

The Honorable Michael McCaul  
Chairman  
The Honorable Bennie Thompson  
Ranking Member  
Committee on Homeland Security  
House of Representatives

The Honorable Trey Gowdy  
Chairman  
The Honorable Elijah Cummings  
Ranking Member  
Committee on Oversight and Government Reform  
House of Representatives

The Honorable Devin Nunes  
Chairman  
The Honorable Adam Schiff  
Ranking Member  
Permanent Select Committee on Intelligence  
House of Representatives

The Honorable Kay Granger  
Chairwoman  
The Honorable Pete Visclosky  
Ranking Member  
Subcommittee on Defense  
Committee on Appropriations  
House of Representatives

The Honorable Mike Simpson  
Chairman  
The Honorable Marcy Kaptur  
Ranking Member  
Subcommittee on Energy and Water Development, and Related Agencies  
Committee on Appropriations  
House of Representatives

---

The Honorable Hal Rogers  
Chairman  
The Honorable Nita Lowey  
Ranking Member  
Subcommittee on State, Foreign Operations, and Related Programs  
Committee on Appropriations  
House of Representatives

# Appendix I: Comments from the Department of Energy



**Department of Energy**  
Under Secretary for Nuclear Security  
Administrator, National Nuclear Security Administration  
Washington, DC 20585



August 27, 2018

Mr. David C. Trimble  
Director, Natural Resources  
and Environment  
U.S. Government Accountability Office  
Washington, DC 20548

Dear Mr. Trimble:

Thank you for the opportunity to review the Government Accountability Office (GAO) draft report "Nuclear Nonproliferation: The Administration's 2018 Plan for Verification and Monitoring Met Most Reporting Requirements but Did Not Include Future Costs and Funding Needs" (GAO-18-617). We appreciate GAO's recognition of the improvements to the 2018 plan prepared by the Department of Energy's National Nuclear Security Administration (NNSA) compared to the 2015 plan and 2017 update, notably that the plan more effectively and completely addresses the requirements contained in the 2018 National Defense Authorization Act (NDAA).

The auditors concluded that the 2018 plan 'fully met' three required reporting elements and 'partially met' the fourth, noting that NNSA did not provide the interagency cost and funding requirements over 10 years as requested in the NDAA. As discussed with the auditors, NNSA and staff from the interagency briefed appropriate congressional committees prior to release of the 2018 plan. In those meetings, we discussed the challenges and feasibility of providing the requested interagency out-year cost and funding data, and verified with congressional committees that it was impractical to provide those elements in the plan. Reasons cited included the inability to meaningfully quantify the level of research and development, and associated costs, required to achieve specific outcomes at this early stage; and misalignment of the 10 year funding element with agencies' timelines and internal processes for planning, programming, budgeting, and execution. Based on the results of these briefings, NNSA plans no further action with regard to cost and funding data.



2

Overall, NNSA's efforts to improve the 2018 plan over prior efforts are accurately reported. The report, however, overstates the importance and feasibility of providing the cost and funding information. Our subject matter experts have separately provided technical and general comments for your consideration to enhance the clarity, accuracy, and balance of the information presented. This includes a list of comparable examples demonstrating that cost and funding information is rarely included in this type of plan. If you have any questions regarding this response, please contact Mr. Dean Childs, Director, Audits and Internal Affairs, at (301) 903-1341.

Sincerely,



Lisa E. Gordon-Hagerty

---

# Appendix II: GAO Contact and Staff Acknowledgments:

---

## GAO Contact

David C. Trimble, (202) 512-3841 or [trimbled@gao.gov](mailto:trimbled@gao.gov)

---

## Staff Acknowledgments

In addition to the contact named above, William Hoehn (Assistant Director), Dave Messman (Analyst-in-Charge), Alisa Carrigan, Antoinette Capaccio, Ben Licht, Steven Putansu, and Gwen Kirby.

---

---

## GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

---

## Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's website (<https://www.gao.gov>). Each weekday afternoon, GAO posts on its website newly released reports, testimony, and correspondence. To have GAO e-mail you a list of newly posted products, go to <https://www.gao.gov> and select "E-mail Updates."

---

## Order by Phone

The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's website, <https://www.gao.gov/ordering.htm>.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

---

## Connect with GAO

Connect with GAO on [Facebook](#), [Flickr](#), [Twitter](#), and [YouTube](#).  
Subscribe to our [RSS Feeds](#) or [E-mail Updates](#). Listen to our [Podcasts](#).  
Visit GAO on the web at <https://www.gao.gov>.

---

## To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Website: <https://www.gao.gov/fraudnet/fraudnet.htm>

Automated answering system: (800) 424-5454 or (202) 512-7700

---

## Congressional Relations

Orice Williams Brown, Managing Director, [WilliamsO@gao.gov](mailto:WilliamsO@gao.gov), (202) 512-4400, U.S. Government Accountability Office, 441 G Street NW, Room 7125, Washington, DC 20548

---

## Public Affairs

Chuck Young, Managing Director, [youngc1@gao.gov](mailto:youngc1@gao.gov), (202) 512-4800 U.S. Government Accountability Office, 441 G Street NW, Room 7149 Washington, DC 20548

---

## Strategic Planning and External Liaison

James-Christian Blockwood, Managing Director, [spel@gao.gov](mailto:spel@gao.gov), (202) 512-4707 U.S. Government Accountability Office, 441 G Street NW, Room 7814, Washington, DC 20548



Please Print on Recycled Paper.