Nuclear Weapons Sustainment and Modernization

Fiscal Year 2019 Nuclear Forces Budget Estimates

Briefing for Congressional Defense Committees

May 29, 2019

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Introduction

- The Departments of Defense (DOD) and Energy (DOE) are jointly managing an extensive effort to sustain and modernize nuclear weapons capabilities. The National Nuclear Security Administration (NNSA), a separately organized agency within DOE, manages DOE's portion of nuclear weapons programs.
- Nuclear weapon delivery systems—strategic missiles, submarines, and aircraft—and the nuclear weapons carried by these systems are aging and being deployed beyond their intended service lives.

Introduction

Section 1043 of the National Defense Authorization Act (NDAA) for FY 2012, as amended, requires the President, in consultation with the Secretaries of Defense and Energy, to annually submit a report including, among other things, 10-year budget estimates related to the nuclear weapons stockpile, complex, delivery systems, and command and control system, as well as the methodologies used to develop the budget estimates.[1] We refer to this report as the joint report.

[1]The report is to be submitted for each of the fiscal years 2013 through 2023. *See* Pub. L. No. 112-81, § 1043(a) (2011), *amended by* the NDAA for Fiscal Year 2013, Pub. L. No. 112-239, § 1041 (2013), the NDAA for Fiscal Year 2014, Pub. L. No. 113-66, § 1054 (2013), the NDAA for Fiscal Year 2018, Pub. L. No. 115-91, § 1665 (2017), and the John S. McCain NDAA for Fiscal Year 2019, Pub. L. No. 115-232, § 1670 (2018).

Introduction

- In addition, both DOD and DOE annually produce 5-year funding plans that inform their budget requests. The DOD plan is known as the Future-Years Defense Program (FYDP), and the DOE plan is known as the Future-Years Nuclear Security Program (FYNSP).
- DOD's portion of the joint report is drawn from information provided by the military departments and defense agencies, information from the FYDP, and information from the President's Budget for the fiscal year of the joint report.
- DOE's portion of the joint report is drawn directly from its Stockpile Stewardship and Management Plan (SSMP) and also includes FYNSP information. The SSMP provides information on modernization plans and budget estimates for NNSA programs over the next 25 years.[2]

[2]NNSA refers to the cost figures included in its budget materials during the FYNSP period as "the budget." We refer to cost figures as "budget estimates" throughout this briefing.

Source of Work

- Section 1043 of the NDAA for FY 2012, as amended, includes a provision for GAO to review each joint report for accuracy and completeness with respect to the budget estimates and the methodologies that were used to develop these estimates.[3]
- DOD and DOE submitted the most recent joint report, for FY 2019, in November 2018.

[3]*See* § 1043(c).

Objectives, Scope, and Methodology

Objectives

1. To what extent are the DOD- and DOE- reported budget estimates for nuclear sustainment and modernization in the FY 2019 joint report consistent (accurate and complete) with the departments' internal funding plans and long-term modernization plans?
2. To what extent did DOD and DOE include complete and transparent information in the FY 2019 joint report regarding the development of their 10-year budget estimates for nuclear sustainment and modernization?

To address our objectives, we

- analyzed the budget data and underlying estimates in the joint report,
- conducted a comparison of the budget data with the FYDP or FYNSP,
- assessed the methodologies that DOD and DOE used to develop their budget estimates in order to determine whether they took actions to address our prior recommendations related to their methodologies, and
- assessed the reliability of the data through the analyses described above.

Scope and Methodology

To support our analyses, we met with officials in the following offices:

- Air Force Headquarters-Strategic Deterrence and Nuclear Integration (A10)
- Air Force Headquarters-Strategic Planning (A8X)
- Chief of Naval Operations-Sea-Based Strategic Deterrence Programs (N97)
- Chief of Naval Operations-Nuclear Policy (N514)
- Chief of Naval Operations-Information Warfare (N2N6)
- Office of the DOD Chief Information Officer (CIO) National Leadership Command Capability Management Office
- Office of the Under Secretary of Defense for Policy
- Office of the Under Secretary of Defense for Acquisition and Sustainment (OUSD A&S)
- Office of Cost Assessment and Program Evaluation
- NNSA Office of Defense Programs

We obtained technical comments on the content of this briefing from DOD and DOE and have incorporated them as appropriate.

Preliminary Observations

- DOD's budget estimates in the FY 2019 joint report for nuclear sustainment and modernization plans are generally consistent with the department's internal funding plans. However, as occurred in previous years, funding for several program elements did not match the funding in the 2019 FYDP.[4]
- DOE provided budget estimates in the joint report for the 5 years in the FYNSP and referred readers to the SSMP for the remaining 5 years. However, because the SSMP presented the relevant data in chart format, it is difficult to obtain specific estimates for program costs for the years beyond the FYNSP. In past years' joint reports, DOE has included all 10 years of budget estimate information.
- DOD and DOE took some steps to improve their descriptions of budget estimating methodologies in the joint report but did not provide complete information in some areas.

[4]The FYDP consists of thousands of program elements, each of which generally represents an aggregation of organizational entities and related resources.

Objective 1: Accuracy and Completeness of Budget Estimates

DOD

- DOD's nuclear delivery system budget estimates are generally consistent with its internal funding plans.
- Nuclear delivery system budget estimates in the FY 2019 joint report increased over estimates in the FY 2018 joint report.[5] Specifically,
  - The 5-year estimate of $82.5 billion reflects an increase of about 10.1 percent (or $7.6 billion).
  - The 10-year estimate of $194.5 billion reflects an increase of about 13.8 percent (or $23.6 billion).[6]
- Nuclear command, control, and communications (NC3) budget estimates in the FY 2019 joint report increased over estimates in the FY 2018 joint report. Specifically,
  - The 5-year estimate of $17.1 billion reflects an increase of about 36.8 percent (or $4.6 billion).
  - The 10-year estimate of $36.3 billion reflects an increase of about 47.6 percent (or $11.7 billion).
- As we noted in previous years, the estimates for several program elements did not match the funding in the 2019 FYDP.

[5]According to DOD officials, this increase is primarily due to programs maturing or entering execution or production years.

[6]Total nuclear delivery system budget estimates include estimates for NNSA's COLUMBIA-Class Program Reactor Plant Design and Land-Based Prototype.

Objective 1: Accuracy and Completeness of Budget Estimates

Air Force Delivery Systems

- The Air Force's budget estimates identified in the FY 2019 joint report for its nuclear delivery systems are generally consistent with DOD internal funding plans.
- According to the FY 2019 joint report, the largest percentage increase in the Air Force's 5-year estimate from the FY 2018 joint report is an increase of 100 percent (or $.4 billion) for the Air Launched Cruise Missile (ALCM) program resulting primarily from increased procurement funding for hardware for the ALCM's service life extension programs.
- The Air Force listed two programs for which estimated funding did not match corresponding 2019 FYDP funding. Air Force officials stated that the estimates were accurate based on internal Air Force funding data and did not provide an explanation for the deviation from the FYDP. Subsequent to our May 29 briefing, the Air Force identified the source of the error that produced the deviation.

Objective 1: Accuracy and Completeness of Budget Estimates

Navy Delivery Systems

- The Navy's budget estimates identified in the FY 2019 joint report for its nuclear delivery systems are generally consistent with DOD internal funding plans.
- According to the FY 2019 joint report, the largest change in the Navy's 10-year estimate from the FY 2018 joint report is an increase of 13.3 percent (or $6.7 billion) to the budget estimate for the COLUMBIA-class submarine, to account for the addition of a third submarine in the 10-year period covered by the joint report.
- The Navy had six programs whose estimates did not match corresponding 2019 FYDP funding. However, Navy officials stated that at the program element level, the Navy extracted only the strategic deterrence funding to determine the estimates reported in the joint report.[7]

[7]The Navy reports estimates for three delivery systems in the joint report. However, internal Naval funding documents account for estimates across shared program elements associated with those delivery systems. We identified deficiencies with program elements that comprise the estimates for two delivery systems.

Objective 1: Accuracy and Completeness of Budget Estimates

Nuclear Command, Control, and Communications Systems

- The DOD CIO's budget estimates identified in the FY 2019 joint report for the sustainment and modernization of the NC3 system are generally consistent with DOD internal funding plans.
- According to the FY 2019 joint report, the largest change from the FY 2018 joint report is an increase in the 10-year estimate for NC3 of 151.8 percent (or $12.6 billion) for Research, Development, Test, and Evaluation (RDT&E).
- DOD CIO and OUSD (A&S) identified planned Procurement, Operations and Maintenance, and RDT&E funding for certain program elements that did not match funding for the corresponding program elements in the 2019 FYDP. In a supplemental accounting methodology, DOD CIO and OUSD (A&S) stated that the services and agencies first estimate the proportion of a system's budget related to either nuclear or conventional operations, prior to that system being assigned an additional NC3 expense percentage.[8]
  - Officials from six services and agencies provided similar explanations for those variances prior to our receiving information about the supplemental accounting methodology. However, the Missile Defense Agency's response did not provide a justification explaining the discrepancies between the agency's budget estimates and the amounts reported in the FYDP.

[8]NC3 expenses are derived from a percentage assigned to the services' and agencies' individual systems that are parts of the NC3 system.

Objective 1: Accuracy and Completeness of Budget Estimates

DOE

- DOE provided budget estimates in a table for 5 years (i.e. the FYNSP) in the FY 2019 joint report, which are generally consistent with its internal funding plans.
- For the remaining 5 years of budget estimates required by section 1043, DOE referred readers to the SSMP.
  - The SSMP included three charts presenting out-year budget estimates for its weapons activities for FY 2018 through FY 2043.[9]
  - However, the SSMP did not include budget estimates in a table for years beyond the FYNSP. As a result, the SSMP cannot be readily used to obtain specific estimates for program costs for the years beyond the FYNSP.

[9]DOE officials referred us to the following three charts within the SSMP: a 25-year out-year estimate that includes budget estimates for all budget lines related to NNSA weapons activities, a 25-year estimate of warhead-specific sustainment costs, and a 25-year estimate of total projected nuclear weapons life extension costs.

Objective 1: Accuracy and Completeness of Budget Estimates

DOE (continued)

- DOE officials told us that budget estimates beyond the FYNSP reflect the costs of continuing the program of record based on present-day requirements and assumptions. Moreover, they said that providing budget estimates beyond the FYNSP in a table would attribute a false level of fidelity to these data.

However, DOE's budget estimates in previous joint reports have covered the entire 10 years in a table, and these reports noted limitations to the data.

Objective 1: Accuracy and Completeness of Budget Estimates

DOE (continued)

- DOE officials provided us with the underlying data they had used to develop the charts presenting the 25-year budget estimates that appear in the SSMP. Based on our analysis of these data and data that appear in the joint report, we calculated that DOE's nuclear modernization budget estimates from FY 2019 increased over the estimates in the FY 2017 joint report (i.e. the most recent report in which DOE provided 10 years of budget estimates). Specifically,
  - The 5-year estimate of about $60.9 billion reflects an increase of about 23.2 percent (or $11.5 billion).
  - The 10-year estimate of about $128.3 billion reflects an increase of about 19.0 percent (or $20.5 billion).[10]

[10]The calculations we conducted to project budget estimates beyond the 5 years of the FYNSP cannot be made on the basis of the information provided in the joint report and SSMP alone, because the SSMP provides the information only in chart form. According to DOE officials, these budget estimate increases are largely tied to changes in scope, as well as to the effects of inflation.

Objective 1: Accuracy and Completeness of Budget Estimates

DOE (continued)

- According to DOE, the primary drivers for the higher budget estimates in the fiscal year 2019 joint report include the W87-1 Modification Program; reestablishing certain strategic material processes; and programs to develop scientific tools for assessing and certifying the stockpile.
- DOE reports in the FY 2019 SSMP that it will continue to work with DOD through the Nuclear Weapons Council to translate NPR policy into requirements.

Objective 2: Completeness and Transparency of Budget Estimating Methodologies

DOD

- DOD has generally taken steps to improve the methodologies included in the FY 2019 joint report.

  For example, DOD provided more methodological information in the FY 2019 joint report than it had in the FY 2017 joint report. In particular, the methodology for NC3 systems included a description of how NC3 systems are accounted for and a description of how the weighted percentages for determining NC3 funding are derived.

- However, as we found in previous reports, while DOD presented comparative information related to the change in cost estimates for certain programs in the joint report, it did not provide complete information about the budget estimates for specific program elements that may differ from the estimates identified in the FYDP. We previously recommended that DOD provide more thorough documentation on the methodologies it used to develop the budget estimates.[11]

  DOD CIO and OUSD (A&S) provided us with information on a supplemental accounting methodology that contained information not in the FY 2019 joint report. Officials told us this methodology would be included in the FY 2020 joint report.

- We will continue to evaluate the actions that DOD takes in response to our recommendations when we evaluate the FY 2020 joint report.

[11]GAO, *Nuclear Weapons Sustainment: Improvements Made to Budget Estimates, but Opportunities Exist to Further Enhance Transparency*, GAO-15-536 (Washington, D.C.: July 30, 2015).

Objective 2: Completeness and Transparency of Budget Estimating Methodologies

DOE

- DOE has taken some steps to improve the methodologies included in the FY 2019 joint report.

  For example, DOE provided more methodological information in the FY 2019 joint report than it had in the FY 2017 joint report. In particular, the information on methodology described the offices involved in developing the cost and budget estimates, as well as how life extension program (LEP) and major alteration cost estimates are developed.

- As previously noted, DOE provided budget estimates for 5 years in the FY 2019 joint report and referred readers to charts in the SSMP for the remaining 5 years of budget estimates. These charts cannot be readily used to obtain specific estimates for program costs beyond the FYNSP. DOE's budget estimates in previous joint reports have covered the entire 10 years in a table. As a result, the information DOE included in the FY 2019 joint report is less complete than information it has presented in the past.

Objective 2: Completeness and Transparency of Budget Estimating Methodologies

DOE (continued)

- In addition, DOE presented comparative information in the joint report related to the change in independent cost estimates for certain LEPs. However, it did not provide comparative information on changes in the budget estimates for other parts of the budget. We previously recommended that DOE provide comparative information on changes in the budget estimates from the prior year and provide reasons for those changes.[12]
- We will continue to evaluate the actions that DOE takes in response to our recommendations when we evaluate the FY 2020 joint report.

[12]GAO-15-536.

Anticipated Changes for the Fiscal Year 2020 Joint Report

- DOD officials stated that the FY 2020 joint report would more fully reflect programmatic changes identified in the 2018 NPR. As stated earlier, DOE reports in the FY 2019 SSMP that the agency will continue to work with DOD through the Nuclear Weapons Council to translate NPR policy into programmatic requirements.
- DOD officials stated that the FY 2020 joint report would include revised budget estimating methodologies and additional programs.
- DOE officials stated that they are considering including a table showing 10 years of budget estimates in the FY 2020 joint report to increase the report's transparency.

Next Steps

- We plan to continue audit work on the nuclear forces budget estimates and draft a report that expands upon this briefing, to be issued in summer 2019.
- Remaining audit work includes obtaining additional information from DOD and DOE to refine our understanding of the underlying data used to develop the joint report.