United States Government Accountability Office

Report to Congressional Committees

June 2019

DOD ACQUISITION REFORM

Leadership Attention Needed to Effectively Implement Changes to Acquisition Oversight

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Why GAO Did This Study

Amid concerns about the ability of DOD's acquisition process to keep pace with evolving threats, Congress included numerous reforms in recent National Defense Authorization Acts that could help to streamline acquisition oversight and field capabilities faster.

GAO was asked to examine DOD's efforts to implement these reforms. This report addresses (1) the progress DOD has made implementing selected oversight reforms related to major defense acquisition programs; (2) how DOD has used middle-tier acquisition pathways; and (3) challenges DOD faces related to reform implementation. GAO reviewed five reforms: milestone decision authority designation; cost, fielding, and performance goals; independent technical risk assessments; restructuring of acquisition oversight offices; and middle-tier acquisition. GAO analyzed applicable statutes and implementing guidance, collected information from DOD about the number and types of middle-tier acquisition programs, reviewed relevant documentation, and interviewed DOD officials.

What GAO Recommends

GAO is making four recommendations, including that DOD should identify the types of information needed to select and oversee middle-tier acquisition programs consistently, and clarify the roles and responsibilities of the Office of the Secretary of Defense and the military departments for acquisition oversight. DOD concurred with GAO's recommendations and described actions planned to address them.

View GAO-19-439. For more information, contact Shelby S. Oakley at (202) 512-4841or oakleys@gao.gov.

What GAO Found

The Department of Defense (DOD) has made progress in implementing reforms to restructure the oversight of major defense acquisition programs. As a result of one of these reforms, decision-making authority for many programs shifted from the Office of the Secretary of Defense to the military departments (see figure).

Decision Authority Level for Major Defense Acquisition Programs from 2012 to 2019
Number of major defense acquisition programs
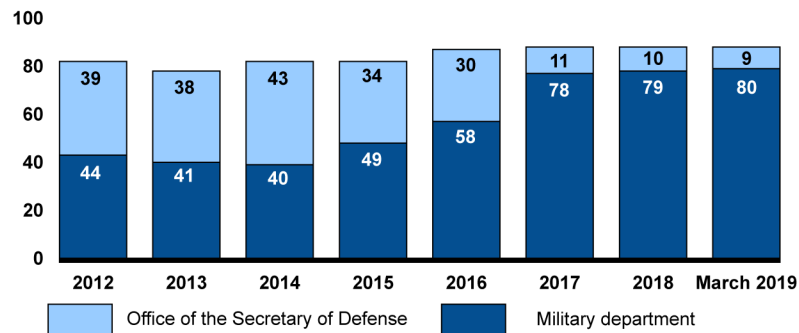
Source: GAO analysis of Department of Defense data. | GAO-19-439

Questions remain about how some reforms GAO reviewed will be carried out. For example, no programs have been required to have cost and fielding goals set under DOD's new process yet, and DOD has formed a working group to determine when to delegate risk assessments to the military departments.

DOD also began using new pathways referred to as middle-tier acquisition to rapidly prototype and field new weapon systems. Middle-tier programs are expected to field capabilities within 2 to 5 years. As of March 2019, military departments were using this authority for 35 unclassified programs (see table).

Number and Type of Unclassified Middle-Tier Acquisition Programs Started as of March 2019

	Rapid Prototyping	Rapid Fielding
Air Force	20	4
Army	8	0
Navy	3	0
Total	**31**	**4**

Source: GAO analysis of Department of Defense data. | GAO-19-439

DOD has yet to fully determine how it will oversee middle-tier acquisition programs, including what information should be required to ensure informed decisions about program selection and how to measure program performance. Without consistent oversight, DOD is not well positioned to ensure that these programs—some of which are multibillion dollar acquisitions—are likely to meet expectations for delivering prototypes or capability to the warfighter quickly.

DOD also continues to face implementation challenges, including one related to disagreements about oversight roles and responsibilities between the Office of the Secretary of Defense and the military departments. Senior DOD leadership has not fully addressed these disagreements. As a result, DOD is at risk of not achieving an effective balance between oversight and accountability and efficient program management.

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Abbreviation

DOD   Department of Defense

U.S. GOVERNMENT ACCOUNTABILITY OFFICE

441 G St. N.W.
Washington, DC 20548

June 5, 2019

The Honorable James M. Inhofe
Chairman
The Honorable Jack Reed
Ranking Member
Committee on Armed Services
United States Senate

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

Many of the Department of Defense's (DOD) major defense acquisition programs face challenges delivering innovative technologies to the warfighter to keep pace with evolving threats. In the National Defense Authorization Acts for Fiscal Years 2016 and 2017, Congress included numerous reforms that could help to streamline acquisition oversight and field capabilities faster.[1] In congressional hearings in 2017 and 2018, the Chairmen of the Senate and House Armed Services Committees emphasized the importance of these reforms and expressed concerns that without improving the speed of and increasing the amount of innovation in the DOD acquisition process, the U.S. military would lose its technological advantage.[2] Collectively, the reforms Congress put forth fundamentally altered roles and responsibilities for major defense acquisition program oversight to give significantly more authority for managing acquisition programs to the military departments. Further, the reforms included an alternative acquisition process for programs intended to field capabilities within 2 to 5 years—a process referred to as middle-tier acquisition. Middle-tier acquisition programs are generally exempt

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[1]Pub. L. No. 114-92 (2015) and Pub. L. No. 114-328 (2016).

[2]*Department of Defense Acquisition Reform Efforts, Before the S. Comm. on Armed Services*, 115th Cong. 1-2 (2017) (statement of Committee Chairman Senator John McCain); and *Assessing Military Service Acquisition Reform, Before the H. Comm. on Armed Services*, 115th Cong. (2018) (statement of Committee Chairman Representative Mac Thornberry).

from DOD's traditional acquisition and requirements development policies.

You asked us to examine DOD's efforts to implement provisions to streamline acquisition oversight included in the National Defense Authorization Acts for Fiscal Years 2016 and 2017. This report addresses (1) the progress DOD has made to implement selected oversight reforms related to major defense acquisition programs; (2) how DOD has used middle-tier acquisition pathways and the extent to which DOD has developed guidance on middle-tier program oversight; and (3) challenges DOD faces related to reform implementation.

This report also includes an assessment of DOD's efforts to implement our previous portfolio management recommendations and identifies opportunities and challenges related to portfolio management that DOD may face as it continues to implement acquisition reforms. This information is included pursuant to provisions in the conference report for the National Defense Authorization Act for Fiscal Year 2018 and the Senate Armed Services Committee report accompanying a bill for the National Defense Authorization Act for Fiscal Year 2018 for us to review project, program, and portfolio management standards within DOD.

We focused our review on five selected reforms from the National Defense Authorization Acts for Fiscal Years 2016 and 2017 that we determined substantially affected DOD's oversight of acquisition programs. Our selections were informed by our analysis of acquisition-related provisions in those Acts, our past work on factors affecting the oversight of major defense acquisition programs, and interviews with DOD officials on their perspectives. We also reviewed related amendments to the reforms we selected that were included in National Defense Authorization Acts for subsequent years.[3]

To assess the progress DOD has made to implement selected oversight reforms for major defense acquisition programs, we analyzed three selected reforms that affect processes related to DOD's oversight of major defense acquisition programs:

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[3]The five reforms we selected include: (1) designating military departments to be the milestone decision authority; (2) conducting independent technical risk assessments; (3) establishing cost, fielding, and performance goals; (4) restructuring the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics; and (5) establishing a middle tier of acquisitions.

GAO-19-439 DOD Acquisition Reform

- designating military departments to be the milestone decision authority;

- conducting independent technical risk assessments; and

- establishing cost, fielding, and performance goals.

We also analyzed one reform that restructured acquisition oversight functions in the Office of the Secretary of Defense. For each of these reforms, we analyzed DOD and military department policies and guidance as of March 2019 to determine steps DOD and the military departments had taken to implement the reforms. Further, we requested and analyzed data provided by DOD about the milestone decision authority levels for the major defense acquisition program portfolio. To obtain additional information about the restructuring of acquisition oversight functions within the Office of the Secretary of Defense, we also reviewed organizational charts and staffing and vacancy data. To assess the reliability of the data on major defense acquisition programs and staffing, we discussed the data and sources used to compile the data with DOD officials, reviewed the data for logical inconsistencies, and compared the data when possible to other sources, such as publicly available lists of major defense acquisition programs. On the basis of these steps, we determined that the data we used were sufficiently reliable for the purposes of assessing the status of DOD's implementation of the reforms we reviewed.

To determine how the military departments have used middle-tier acquisition pathways, we reviewed the relevant statute and DOD and military department guidance with regard to the selection and oversight of programs. We compared the guidance with our past work on elements of business cases that should be completed at program initiation to determine what elements were addressed by DOD guidance.[4] We also reviewed the extent to which the guidance addressed relevant internal controls related to consistent measurement of program performance.[5] Further, we obtained information from the military departments about the number and types of middle-tier acquisition programs that they were executing as of March 2019. For each of the military departments, we

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[4]GAO, *Acquisition Reform: DOD Should Streamline Its Decision-Making Process for Weapon Systems to Reduce Inefficiencies,* GAO-15-192 (Washington, D.C.: Feb. 24, 2015).

[5]GAO, *Standards for Internal Control in the Federal Government,* GAO-14-704G (Washington, D.C.: Sept. 10, 2014).

selected three middle-tier programs to review in additional detail. We selected programs to obtain a range of program costs and types of programs being executed under the middle-tier acquisition pathway (such as space, artillery, and ground vehicle programs). For these programs, we collected and analyzed additional information such as acquisition decision memorandums, acquisition strategies, program cost and schedule estimates, and risk assessments to determine what business case documents the programs had developed prior to program initiation.

To assess the challenges DOD faces with regard to reform implementation, we reviewed policy and guidance issued by DOD that outlined roles and responsibilities for the Office of the Secretary of Defense and the military departments with regard to acquisition oversight and compared them to leading practices for leadership involvement in agency transformations that we had identified in prior work.[6] We also collected and analyzed information about DOD's actions taken to implement prior recommendations we have made to improve portfolio management at DOD and analyzed how the acquisition reforms we reviewed had affected portfolio management at DOD. Lastly, we reviewed DOD's plans and ongoing efforts to develop performance measures and collect data to assess the effects of acquisition reforms and compared these efforts with related success factors for reform implementation identified in our past work.[7] See appendix I for more information on our objectives, scope, and methodology.

We conducted this performance audit from March 2018 to June 2019 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 that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

DOD's acquisition of weapon system programs has been on our High Risk List since 1990 because DOD programs consistently fall short of

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[6]GAO, *Results-Oriented Cultures: Implementation Steps to Assist Mergers and Organizational Transformations,* GAO-03-669 (Washington, D.C.: July 2, 2003).

[7]GAO, *Government Reorganization: Key Questions to Assess Agency Reform Efforts,* GAO-18-427 (Washington, D.C.: June 13, 2018).

cost, schedule, and performance expectations.[8] Congress and DOD have long explored ways to curtail these cost, schedule, and performance problems, and both took related actions about a decade ago, with Congress passing the Weapon Systems Acquisition Reform Act of 2009 and DOD implementing its "Better Buying Power" initiatives.[9] The Weapon Systems Acquisition Reform Act of 2009 aimed to improve the organization and procedures of DOD for the acquisition of major weapon systems, for example by revising the certifications that programs were expected to complete before approval for system development start. The new certifications included the need to conduct trade-offs among cost, schedule, and performance objectives and for independent verification of technology maturity. In 2010, DOD started its own acquisition reform initiatives through "Better Buying Power." These reforms required DOD programs to conduct analyses of program affordability and set cost targets, among other things, which placed cost constraints on programs and encouraged programs to find cost improvements during program execution. These and other reforms championed sound management practices, such as realistic cost estimating, increased use of prototyping, and systems engineering. In 2016, we found that DOD was beginning to decrease the amount of cost growth in its major defense acquisition program portfolio.[10]

Despite DOD's improvements in cost control, however, members of Congress remained concerned that the DOD acquisition process was overly bureaucratic and too slow to deliver capability to the warfighter. Congress enacted numerous additional acquisition-related provisions in the National Defense Authorization Acts for Fiscal Year 2016 and subsequent years that addressed the processes with which DOD and the military departments acquire goods and services and encourage innovation. These provisions addressed a wide range of acquisition issues, such as the:

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[8]GAO, *High-Risk Series: Substantial Efforts Needed to Achieve Greater Progress on High-Risk Areas,* GAO-19-157SP (Washington, D.C.: Mar. 6, 2019).

[9]Pub. L. No. 111-23 as amended; Office of the Under Secretary of Defense, Acquisition, Technology and Logistics: *Better Buying Power: Mandate for Restoring Affordability and Productivity in Defense Spending* (June 28, 2010); Office of the Under Secretary of Defense, Acquisition, Technology and Logistics: *Better Buying Power 2.0: Continuing the Pursuit for Greater Efficiency and Productivity in Defense Spending* (Nov. 13, 2012).

[10]GAO, *Defense Acquisitions: Assessments of Selected Weapon Programs,* GAO-16-329SP (Washington, D.C.: Mar. 31, 2016).

GAO-19-439 DOD Acquisition Reform

- creation of new processes for oversight of major defense acquisition programs;

- development of streamlined alternative acquisition paths; and

- changes to DOD's other transaction authority, which allows DOD to enter into agreements that generally do not follow a standard format or include terms and conditions required in traditional mechanisms, such as contracts or grants.

Congress also required that DOD establish a panel in the National Defense Authorization Act for Fiscal Year 2016, referred to as the "Section 809 Panel," to identify ways to streamline and improve the defense acquisition system. The panel issued its final report in January 2019, which, together with its earlier reports, included a wide range of recommendations aimed at changing the overall structure and operations of defense acquisition.[11]

DOD Acquisition Programs and Authorities

DOD acquisition policy defines an acquisition program as a directed, funded effort that provides a new, improved, or continuing materiel, weapon, or information system, or a service capability in response to an approved need. DOD Directive 5000.01, *The Defense Acquisition System*, provides management principles and mandatory policies and procedures for managing all acquisition programs. Oversight levels and procedures for DOD's acquisition programs are outlined in DOD Instruction 5000.02, *Operation of the Defense Acquisition System*.[12]

Traditionally, defense acquisition programs are classified into acquisition categories based on the value and type of acquisition. DOD's most costly programs have historically been referred to as major defense acquisition

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[11]Section 809 Panel, *Report of the Advisory Panel on Streamlining and Codifying Acquisition Regulations, Volume 3 of 3,* January 2019. The Section 809 panel also produced an interim report and two additional volumes of its final report, issuing Volume 1 in January 2018 and Volume 2 in June 2018.

[12]Department of Defense Directive No. 5000.01, *The Defense Acquisition System* (May 12, 2003, Incorporating change 2, Aug. 31, 2018); Department of Defense Instruction No. 5000.02, *Operation of the Defense Acquisition System* (Jan. 7, 2015, Incorporating change 4, Aug. 31, 2018).

or Acquisition Category I programs.[13] Programs with lower costs are categorized as Acquisition Category II or III programs. The acquisition category of a program can affect oversight levels and procedures, such as what program information and documents are required and who is designated as the milestone decision authority. Among other responsibilities, the milestone decision authority approves entry of an acquisition program into the next phase of the acquisition process and is accountable for cost, schedule, and performance reporting.

Overview of DOD Weapon System Decision-Making Processes

DOD's acquisition process includes three major milestones at which program offices provide information to or receive a waiver from the milestone decision authority. The milestone decision authority then makes a decision on whether the program is ready to transition to the next acquisition phase.

The milestones normally represent transition points in programs at which there is a marked increase in the funding required for the program.

- Milestone A is the decision for an acquisition program to enter into the technology maturation and risk reduction phase.

- Milestone B is the decision to enter the engineering and manufacturing development phase.

- Milestone C is the decision to enter the production and deployment phase.

Programs may start at different milestones depending on the circumstances of the particular program, such as whether the technologies the program plans to use are mature. Some major defense acquisition programs, such as the Marine Corps' Amphibious Combat Vehicle program and the Navy's Next Generation Jammer-Mid Band program, entered the acquisition system at milestone A. Other programs, such as the Air Force's Combat Rescue Helicopter program and the Army's Armored Multi-Purpose Vehicle program, entered directly at

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[13]Acquisition category I programs have a dollar value for all increments estimated to require an eventual total expenditure for research, development, test, and evaluation of more than $480 million, or for procurement of more than $2.79 billion, in fiscal year 2014 constant dollars or have been designated as a special interest by the milestone decision authority.

milestone B without having a milestone A because technologies were considered mature by the Office of the Secretary of Defense and an independent review team, respectively.

Figure 1 illustrates the key milestones associated with the defense acquisition system.

Figure 1: Key Milestones Associated with the Defense Acquisition System

Milestone A — Technology maturation and risk reduction phase — Technology maturation and risk reduction phase approval

Milestone B — Engineering and manufacturing development phase — Engineering and manufacturing development phase approval

Milestone C — Production and deployment phase — Production and deployment phase approval

Source: GAO analysis of Department of Defense data. | GAO-19-439

DOD's acquisition policy encourages tailoring the acquisition process, including tailoring of documentation or information requirements. In previous work, we identified opportunities for DOD to tailor the documentation and oversight needed for major defense acquisition programs. In 2015, we found that 24 acquisition programs we surveyed spent, on average, over 2 years completing up to 49 information requirements for their most recent milestone decision.[14] We found that DOD's review process was a key factor that influenced the time needed to complete the information requirements. In total, the requirements averaged 5,600 staff days to document, yet acquisition officials considered only about half of the requirements as high value. We recommended that DOD eliminate reviews and information requirements that do not add value or are no longer needed. DOD agreed with both recommendations and took some actions through its Better Buying Power initiatives to streamline documentation and staff reviews.

Among the information requirements that acquisition officials considered most valuable were those that support a sound business case. A solid, executable business case provides credible evidence that (1) the warfighter's needs are valid and that they can best be met with the chosen concept, and (2) the chosen concept can be developed and produced within existing resources—such as technologies, design

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[14]GAO-15-192.

knowledge, funding, and time. Establishing a sound business case for individual programs depends on disciplined requirements and funding processes, and calls for a realistic assessment of risks and costs; doing otherwise undermines the intent of the business case and increases the risk of cost and schedule overruns and performance shortfalls. The program's business case typically includes documentation of the capabilities required of the weapon system, the strategy for acquiring the weapon system, sound cost estimates based on independent assessments, and a realistic assessment of technical and schedule risks.

DOD Weapon System Acquisition Program Oversight Roles and Responsibilities

Several entities at the enterprise level (meaning the Office of the Secretary of Defense, Joint Chiefs of Staff, and Joint Staff) and the military department level play a role in the oversight and budgeting for DOD weapon system acquisition programs.[15] In general, at the enterprise level, the acquisition and budgeting processes are managed by subordinate offices within the Office of the Secretary of Defense. More specifically:

- **The Under Secretary of Defense for Research and Engineering** is responsible for establishing policies on and supervising all aspects of defense research and engineering, technology development, technology transition, prototyping, experimentation, and developmental testing activities and programs, including the allocation of resources for defense research and engineering. This organization has a significant role in activities prior to milestone B, but also interacts with major defense acquisition programs throughout their life cycles with regard to technical risks. For major defense acquisition programs, the Under Secretary conducts assessments in areas such as technology maturity, interoperability, and cyber security.

- **The Under Secretary of Defense for Acquisition and Sustainment** is responsible for establishing policies on and supervising all matters relating to acquisition (including (1) system design, development, and production; and (2) procurement of goods and services) and sustainment (including logistics, maintenance, and materiel

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[15]The Joint Chiefs of Staff consist of the Chairman, the Vice Chairman, the Chief of Staff of the Army, the Chief of Naval Operations, the Chief of Staff of the Air Force, the Commandant of the Marine Corps, and the Chief of the National Guard Bureau. The collective body of the Joint Chiefs of Staff is headed by the Chairman. The Joint Staff assists the Chairman in accomplishing his responsibilities for the unified strategic direction of the combatant forces; their operation under unified command; and their integration into an efficient team of land, naval, and air forces.

readiness). This organization has certain oversight responsibilities for major defense acquisition programs throughout the acquisition process, such as collecting and distributing performance data. The Under Secretary is the Defense Acquisition Executive and serves as the milestone decision authority for certain major defense acquisition programs.

- **The Director, Cost Assessment and Program Evaluation and the Under Secretary of Defense (Comptroller)** manage the annual budget preparation process for acquisition programs. These organizations have cost assessment and budgetary responsibilities, respectively, for major defense acquisition programs leading up to each milestone and once these programs have been fielded.

At the military department level, the service acquisition executive, also known as the component acquisition executive, is a civilian official within a military department who is responsible for all acquisition functions within the department and can serve as the milestone decision authority. The following officials serve as the service acquisition executive for the military departments:

- the Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics) for the Air Force;

- the Assistant Secretary of the Army (Acquisition, Logistics and Technology) for the Army; and

- the Assistant Secretary of the Navy (Research, Development and Acquisition) for the Navy and the Marine Corps.

Selected Acquisition Oversight Reforms

We focused our review on five selected reforms from the National Defense Authorization Acts for Fiscal Years 2016 and 2017. Three of the reforms affect the processes related to DOD's oversight of major defense acquisition programs, the fourth restructured acquisition oversight functions in the Office of the Secretary of Defense, and the fifth provides alternative acquisition pathways for programs that are not considered major defense acquisition programs and have an objective of being completed within 5 years. Table 1 identifies the source of the five reforms that we reviewed and provides a brief summary of each reform.

Table 1: Summary of Selected Reforms that Affect Acquisition Program Oversight from the National Defense Authorization Acts for Fiscal Years 2016 and 2017

Action Related to Reform	National Defense Authorization Act Year and Section	Description
Changes to Oversight Processes for Major Defense Acquisition Programs		
Designating military departments to be milestone decision authority	Section 825 of the National Defense Authorization Act for Fiscal Year 2016	Required that the service acquisition executive of the military department concerned be designated as the milestone decision authority for major defense acquisition programs initiated after October 1, 2016 unless the Secretary of Defense designates an alternate milestone decision authority under certain circumstances outlined in statute, such as the program being critical to a major interagency effort.
Performing independent technical risk assessments	Section 807(a) of the National Defense Authorization Act for Fiscal Year 2017	Required independent technical risk assessments identifying critical technologies and manufacturing processes that need to be matured be conducted for major defense acquisition programs that reach milestone A after October 1, 2017. The assessments are to be conducted before any decision to grant milestone A or milestone B approval; before any decision to enter into low rate initial production or full rate production; or at any other time considered appropriate by the Secretary of Defense.
Establishing cost, fielding, and performance goals	Section 807(a) and section 925(b) of the National Defense Authorization Act for Fiscal Year 2017	Required cost, fielding, and performance goals be set for major defense acquisition programs that reach milestone A after October 1, 2017. The goals must be established before funds are obligated for technology development, systems development, or production. The goals are to ensure that the milestone decision authority approves a program that will: be affordable; anticipate the evolution of capabilities to meet changing threats, technology insertion, and interoperability; and be fielded when needed.
Reorganizing Acquisition Oversight Functions in the Office of the Secretary of Defense		
Reorganizing the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics	Sections 901(a) and (b) of the National Defense Authorization Act for Fiscal Year 2017	Restructured the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics and distributed the responsibilities previously carried out by that office to two newly created undersecretary positions—the Under Secretary of Defense for Research and Engineering and the Under Secretary of Defense for Acquisition and Sustainment.
Creation of Alternative Acquisition Pathways		
Establishing a middle tier of acquisitions	Section 804 of the National Defense Authorization Act for Fiscal Year 2016	Required the Department of Defense to establish guidance for a streamlined middle tier of acquisitions for rapid prototyping and rapid fielding programs that are intended to be completed within 2 to 5 years. Programs using this authority are generally to be exempt from the Department of Defense's traditional acquisition and requirements development policies.

Source: GAO analysis of National Defense Authorization Acts for Fiscal Years 2016 and 2017. | GAO-19-439

Note: The statute associated with several of these reforms has been amended by subsequent National Defense Authorization Acts since being signed into law. See app. II.

For additional detail on the statute, amendments, and related DOD guidance we reviewed, see appendix II.

DOD Has Made Progress in Implementing Acquisition Oversight Reforms and Efforts to Reorganize Are Ongoing

We found that DOD has made progress implementing reforms that have affected the oversight of major defense acquisition programs. Decision-making authority for these programs has been realigned between the Office of the Secretary of Defense and the military departments. In addition, new processes are in place to improve DOD's consideration of program cost, fielding, and performance goals and assessment of technical risk although questions remain about how they will be implemented. The Office of the Secretary of Defense has also restructured in an effort to increase innovation in the earlier stages of the acquisition process and reduce cost, schedule, and performance risks in later stages. While the restructure has begun to take shape, additional steps remain to be completed, including developing charters and fully staffing new offices. These steps are important to determining how acquisition oversight roles within the Office of the Secretary of Defense—which had been executed by a single office for decades—will be divided and how new offices will be structured to effectively carry out their work.

DOD Has Implemented Reforms That Affect the Oversight of Major Defense Acquisition Programs

Milestone decision authority for most major defense acquisition programs now resides with the military departments, a reform generally required for programs starting after October 1, 2016 by section 825 of the National Defense Authorization Act for Fiscal Year 2016.[16] According to data from DOD's Defense Acquisition Visibility Environment system, as of March 2019, milestone decision authority was at the military department level for 80 of 89 major defense acquisition programs. The 80 programs include all six programs that started at milestone B or an equivalent milestone since this reform became effective on October 1, 2016, and 74 other programs that started before the reform became effective.[17]

The nine programs retained by the Office of the Secretary of Defense all began prior to the reform becoming effective and include programs that are high risk, joint, or have had significant cost or schedule growth, such as the F-35 Joint Strike Fighter program and the Army's Integrated Air and Missile Defense program. See appendix III for more information about milestone decision authority, including a list of the major defense acquisition programs as of March 2019 and the milestone decision authority for each.

Prior to this reform going into effect, the Under Secretary of Defense for Acquisition, Technology and Logistics within the Office of the Secretary of Defense typically was the milestone decision authority for major defense acquisition programs until they entered the production and deployment phase—that is, for the milestone A, B, and C decisions. The Under Secretary then typically delegated milestone decision authority to the military departments after the milestone C decision. Under the new reform, the Secretary of Defense may designate an alternate milestone decision authority under certain circumstances. For example, the Secretary may determine that the program meets one of several

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[16]Specifically, the National Defense Authorization Act for Fiscal Year 2016 required that the milestone decision authority for a major defense acquisition program reaching milestone A after Oct. 1, 2016, be the service acquisition executive of the military department that is managing the program, unless the Secretary of Defense designates another official to serve as the milestone decision authority. Pub. L. No. 114-92 § 825, amending 10 U.S.C. § 2430.

[17] Two additional programs have held a milestone A or milestone A equivalent since the reform became effective. However, these programs are not included in the 89 major defense acquisition programs reflected here because they are considered by DOD to be pre-major defense acquisition programs until the program enters system development or production (if the program bypasses system development). As of March 2019, neither program had yet held a milestone B.

characteristics outlined in statute, such as addressing a joint requirement or the program being critical to a major interagency requirement. There are now substantially more major defense acquisition programs with decision authority at the military department level. This change resulted from both the statutory reform for newly started programs and changes to milestone decision authority for existing programs resulting from a separate review conducted by the Office of the Secretary of Defense after the reform became effective, wherein the military department was designated the milestone decision authority for approximately 20 programs. See figure 2 for trends in the level of milestone decision authority from 2012 to 2019.

Figure 2: Level of Milestone Decision Authority for Major Defense Acquisition Programs from 2012 to 2019

Number of major defense acquisition programs
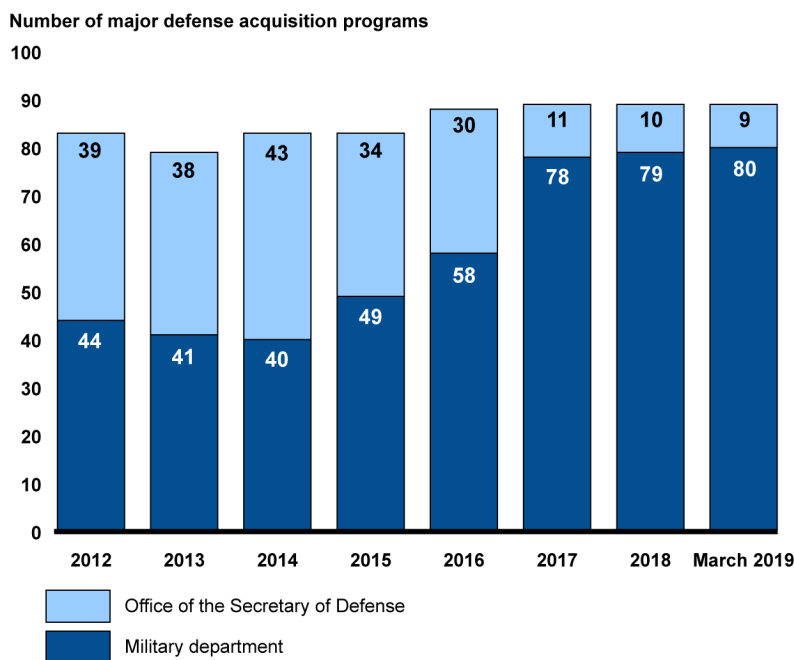
Source: GAO analysis of Department of Defense data. | GAO-19-439

Note: Data for 2012 to 2017 were obtained from the Defense Acquisition Management Information Retrieval system. Data for 2018 and 2019 were obtained from the Defense Acquisition Visibility Environment system.

While the Office of the Secretary of Defense is not the milestone decision authority for the majority of major defense acquisition programs, it still plays a role in oversight of these programs. For example, the Under Secretary of Defense for Acquisition and Sustainment exercises advisory

authority over major defense acquisition programs for which the service acquisition executive is the milestone decision authority. According to the Under Secretary, she may intervene with programs when she deems necessary, for example to address cost, schedule, or performance problems. This or other offices within the Office of the Secretary of Defense also perform oversight functions such as:

- establishing policies on developmental testing activities and advising on mission engineering,

- advising the Secretary on technology maturation,

- performing root cause analyses of problems within acquisition programs,

- gathering and distributing data and lessons learned, and

- conducting or approving independent cost estimates.

The Fiscal Year 2017 National Defense Authorization Act created two new oversight processes that are related to improving (1) DOD's consideration of cost, fielding, and performance goals before funds are invested in acquisition programs and (2) the assessment of technical risk throughout the acquisition process. The Office of the Secretary of Defense has significant roles in both processes.

- **Cost, fielding, and performance goals.** The reform required DOD to establish a process to develop program cost, fielding, and performance goals for major defense acquisition programs that reach milestone A after October 1, 2017. The statute described the goals as follows: (1) the cost goal is for both procurement unit cost and sustainment cost, (2) the fielding goal is the date for initial operational capability, and (3) the performance goal is for technology maturation, prototyping, and a modular open system approach. DOD issued a policy for the process in November 2018, stating that stakeholders will complete independent analyses in their areas of responsibility to consider the aggregated risk regarding technical feasibility, cost, schedule, and affordability, which will be submitted to the milestone decision authority (typically at the military department level). The policy stated that it applies to all major defense acquisition programs that enter the acquisition process after October 1, 2017, without regard to what milestone initiates the program. The policy also stated that the Office of the Secretary of Defense will have the opportunity to consult with the milestone decision authority on revised goals if the

program exceeds its initial cost or fielding goals prior to the next milestone or production decision.[18]

DOD acquisition policy already required programs to document objectives for system cost, schedule, and performance in an acquisition program baseline at milestone B and affordability cost goals were to be set at milestone A. Under the new process, fielding and performance goals are established earlier and all three goals (cost, fielding, and performance) are required to be established before funds are obligated for technology development, systems development, or production, rather than being set at specific program milestones.[19] The new process also adds a meeting to review and discuss the goals before they are approved by the milestone decision authority. Officials from the Office of the Under Secretary of Defense for Acquisition and Sustainment told us that this new process is intended to consolidate existing information to inform earlier decisions on which investments the department wants to make.

As of March 2019, no major defense acquisition programs have held a milestone A since the statutory requirement became effective, and no major defense acquisition programs have had goals established under the new process. According to officials from the Office of the Under Secretary of Defense for Acquisition and Sustainment, no new programs have been required to have goals established since DOD's policy for the process was issued in November 2018.[20] These officials told us they rely on the milestone decision authority to notify them when goals need to be established and that the first programs expected to have goals established under the new policy are the Army's Gator Landmine

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[18]Department of Defense, Deputy Secretary of Defense Memorandum: *Procedures for the Establishment of Program Cost, Fielding, and Performance Goals for Major Defense Acquisition Programs* (Nov. 16, 2018) (For Official Use Only). As originally enacted, the Secretary of Defense was required to establish cost, fielding, and performance goals; however this statute was subsequently amended to provide the milestone decision authority the responsibility of establishing these goals. National Defense Authorization Act for Fiscal Year 2017, Pub. L. No. 114-328 § 807(a) (2016), adding new 10 U.S.C. § 2448a, as amended by the John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. No.115-232 § 831 (2018).

[19]The terms "schedule" and "fielding targets" are used interchangeably in the National Defense Authorization Act for Fiscal Year 2017, Pub. L. No. 114-328 § 807.

[20]Two programs had goals set at milestone B prior to the policy being finalized: the Navy's MQ-25 Stingray program and the Air Force's Global Positioning System III Follow-On program.

Replacement Program and the Air Force's Mk21A Reentry Vehicle. Both programs are slated to go through the process in mid-2019.

- **Independent technical risk assessments.** The Under Secretary of Defense for Research and Engineering is now responsible for conducting or approving independent technical risk assessments for major defense acquisition programs prior to milestones A and B and before production decisions. According to DOD's December 2018 independent technical risk assessment policy, the assessments will consider the full spectrum of technology, engineering, and integration risk, including critical technologies and manufacturing processes, and the potential impacts to cost, schedule, and performance.

  The reform required the assessments for major defense acquisition programs reaching milestone A after October 1, 2017; no major defense acquisition programs have held a milestone A since that date. DOD policy issued in December 2018 implementing the statute states that the assessments will be conducted for all major defense acquisition programs at each upcoming milestone throughout the acquisition process, effective December 3, 2018. As a result, the assessments will be conducted regardless of whether the program reached milestone A after October 1, 2017.[21] As of March 2019, the Office of the Under Secretary of Defense for Research and Engineering had conducted eight independent technical risk assessments on major defense acquisition programs. One additional assessment on the Infrared Search and Track Block II program was delegated to the Navy to conduct, although the Office of the Under Secretary of Defense for Research and Engineering still approved the assessment.

  While DOD acquisition guidance previously provided for similar types of assessments, they were not always required to be conducted or approved at the Office of the Secretary of Defense level for all major defense acquisition programs. DOD acquisition guidance previously provided for the Office of the Secretary of Defense to request broad program assessments related to systems engineering, including risk areas, at all milestones for major defense acquisition programs with milestone decision authority at the Office of the Secretary of Defense

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[21]Department of Defense, Deputy Secretary of Defense: *Policy Memorandum for Independent Technical Risk Assessments for Major Defense Acquisition Programs* (Dec. 3, 2018).

level. Additionally, all major defense acquisition programs were required to have a separate assessment of critical technology elements prior to entering the system development phase or the production and deployment phase if the system enters the acquisition life cycle after system development. DOD's December 2018 policy requires that independent technical risk assessments be conducted or approved at the Office of the Secretary of Defense level by the Office of the Under Secretary of Defense for Research and Engineering unless this responsibility is delegated, regardless of the level of the milestone decision authority.

Office of the Secretary of Defense Reorganization Is Ongoing and Many Key Leadership Positions Are Not Filled

The Office of the Secretary of Defense officially reorganized its acquisition organization on January 31, 2018, in response to Section 901 of the Fiscal Year 2017 National Defense Authorization Act.[22] Under the reorganization, responsibilities of the former Under Secretary of Defense for Acquisition, Technology and Logistics were divided between two new offices—the Under Secretary of Defense for Research and Engineering and the Under Secretary of Defense for Acquisition and Sustainment (see fig. 3 and app. IV for organizational charts).

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[22]Department of Defense, Deputy Secretary of Defense: *Implementation Guidance for the Establishment of the Office of the Under Secretary of Defense for Research and Engineering and the Office of the Under Secretary of Defense for Acquisition and Sustainment* (Jan. 31, 2018).

Figure 3: Selected Offices Related to the Reorganization of the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics
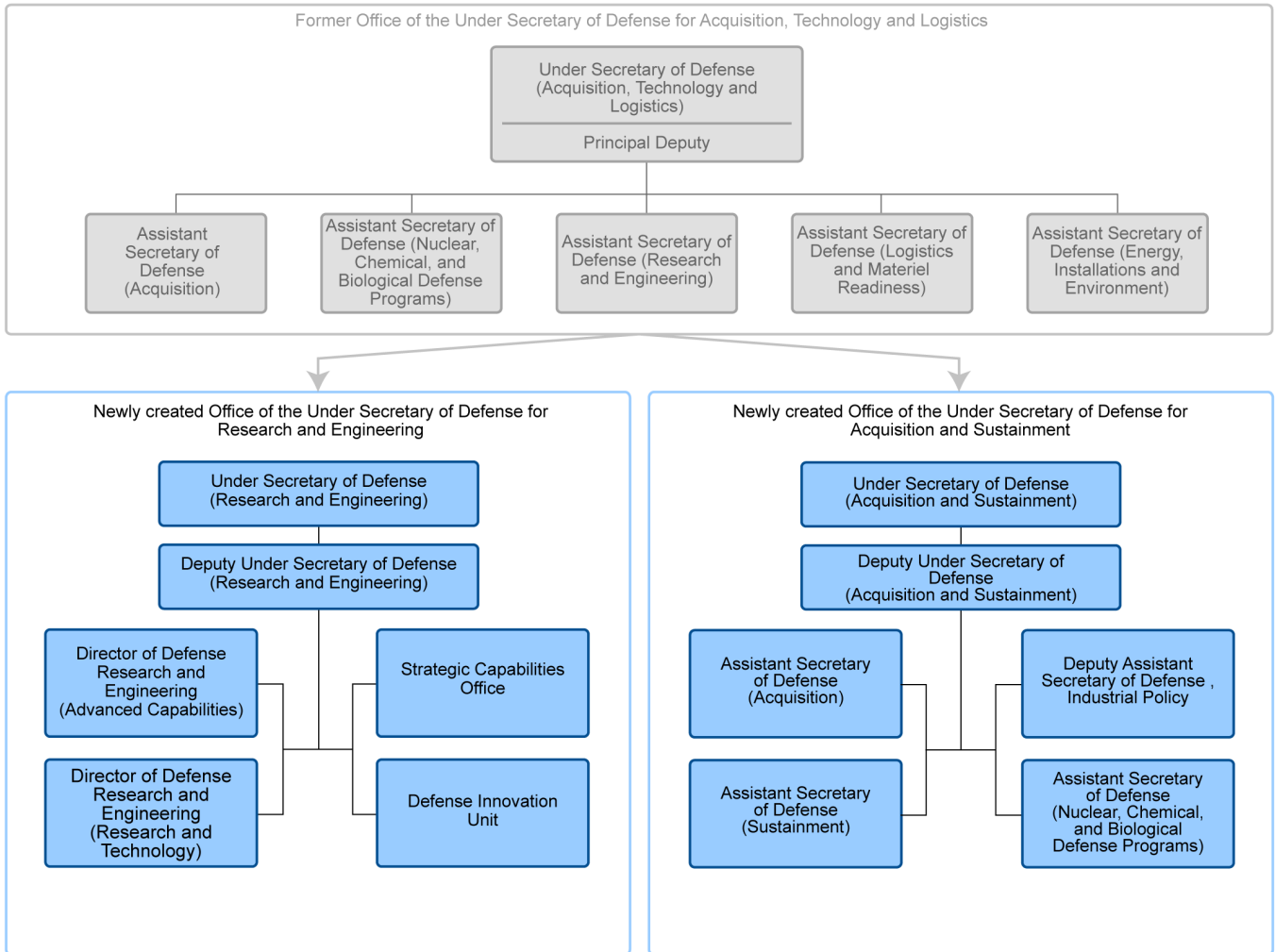
Source: GAO analysis of Department of Defense documents. | GAO-19-439

According to the conference report accompanying the legislation, the priorities framing the conference discussions on reorganization included elevating the mission of advancing technology and innovation within DOD, and fostering distinct technology and acquisition cultures.[23] The report further states that the conferees expect that the Under Secretary of Defense for Research and Engineering would take risks, test, and experiment, and have the latitude to fail, as appropriate. Additionally, the report states that the conferees expect the Under Secretary of Defense for Acquisition and Sustainment to focus on timely, cost-effective delivery and sustainment of products and services, and seek to minimize any risks to that objective. It is too early to say whether the goals of the reorganization have been realized.

In July 2018, the Deputy Secretary of Defense issued a memorandum outlining the overall organizational structures, roles, and responsibilities of the two new Under Secretary offices.[24] Responsibilities of many prior subordinate offices were realigned to one of the two new Under Secretary offices as part of the reorganization. For example, systems engineering falls under the Under Secretary of Defense for Research and Engineering and contracting policy and oversight falls under the Under Secretary of Defense for Acquisition and Sustainment.

New offices or positions were also created during the reorganization. For example, the Office of the Under Secretary of Defense for Research and Engineering created eight assistant director positions to serve as resident experts in strategic technology areas, such as cyber, quantum science, and hypersonics. Similarly, the Office of the Under Secretary of Defense for Acquisition and Sustainment created an Assistant Secretary of Defense for Sustainment. Previously, sustainment activities were spread across several organizations headed by two Assistant Secretaries of Defense.

While foundational steps to stand up the two new Under Secretary offices have been taken, as of March 2019, reorganization actions were ongoing in two major areas: completing chartering directives that define the scope

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[23]H.R. Rep. No. 114-840, at 1129-1131 (2016) (Conf. Rep.).

[24]Department of Defense, Deputy Secretary of Defense: *Establishment of the Office of the Under Secretary of Defense for Research Engineering and the Office of the Under Secretary of Defense for Acquisition and Sustainment* (July 13, 2018) (Unclassified//For Official Use Only).

of responsibilities for the two new offices and hiring additional people for the new offices, including for several senior leadership positions.

- **Chartering directives:** Officials from the Office of the Chief Management Officer originally expected charters for the two offices to be completed by January 2019, but progress has been delayed. According to DOD policy, chartering directives are required to define the scope of functional responsibilities and identify all delegated authorities for the chartered organizations.[25] According to a July 2018 memorandum issued by the Deputy Secretary of Defense, the Chief Management Officer is to oversee the development of the charters. Officials from the Office of the Chief Management Officer stated that they are doing so with significant input from the Under Secretaries of Defense for Research and Engineering and Acquisition and Sustainment. These officials told us that the development of the charters has taken longer than expected because redistributing the responsibilities of a single office into two new offices was complicated due to the number of shared or partially overlapping interests.

  Officials from the Offices of the Under Secretaries of Defense for Research and Engineering and Acquisition and Sustainment now estimate the charters will be completed in July 2019 after department-wide coordination, though they said that time frame may be optimistic given the challenges to date. These officials also told us they expect that they will need to make additional changes to other existing acquisition policies and guidance to incorporate the new content of the chartering directives once complete.

- **Hiring additional employees:** In order to stand up the two newly-created organizations, on February 1, 2018, 516 civilian and military positions from the former Office of the Under Secretary of Defense for Acquisition, Technology and Logistics were divided between the two new Under Secretary offices. Finalizing staffing for both offices has been a gradual process that will not be completed until at least fiscal year 2020 because of the need to: (1) reduce positions to meet statutorily-directed cost-savings objectives; (2) realign positions

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[25]Department of Defense Instruction No. 5025.01, *Department of Defense Issuances Program* (Aug. 1, 2016, incorporating change 2, effective Dec. 22, 2017).

between the two offices; and (3) hire additional staff.[26] Table 2 provides additional detail on past and expected changes to authorized positions.

Table 2: Changes to Authorized Civilian and Military Positions for the Offices of the Under Secretaries of Defense for Research and Engineering and Acquisition and Sustainment

Office	Authorized Positions as of February 1, 2018	Authorized Positions as of March 1, 2019	Anticipated Authorized Positions as of September 30, 2020
Under Secretary of Defense for Research and Engineering	103	148	161
Under Secretary of Defense for Acquisition and Sustainment	413	299	275
Total	**516**	**447**	**436**

Source: GAO analysis of Department of Defense data. | GAO-19-439

Both Under Secretaries are still working to staff their offices, with approximately 30 percent of current positions vacant in the Office of the Under Secretary of Defense for Research and Engineering, and 8 percent of current positions vacant in the Office of the Under Secretary of Defense for Acquisition and Sustainment. See figure 4 for the current status of staffing within both offices.

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[26]In accordance with a requirement for a plan for cost-savings objectives in the National Defense Authorization Act for Fiscal Year 2016, Pub. L. No. 114-92 § 346 (2015), the former Office of the Under Secretary of Defense for Acquisition, Technology and Logistics had planned to reduce civilian and military positions to meet directed targets. The Office of the Under Secretary of Defense for Acquisition and Sustainment will continue reducing positions to meet directed targets through fiscal year 2020.

Figure 4: Status of Civilian and Military Staffing for the Offices of the Under Secretaries of Defense for Research and Engineering and Acquisition and Sustainment as of March 2019

Positions

45 / 103	**34** / 86	**11** / 17	**23** / 276	**17** / 228	**6** / 48
Total	non-Senior Executive Service	Senior Executive Service	Total	non-Senior Executive Service	Senior Executive Service

Type of position

☐ Vacant positions

◻ Filled positions in the Office of the Under Secretary of Defense for Research and Engineering

◼ Filled positions in the Office of the Under Secretary of Defense for Acquisition and Sustainment
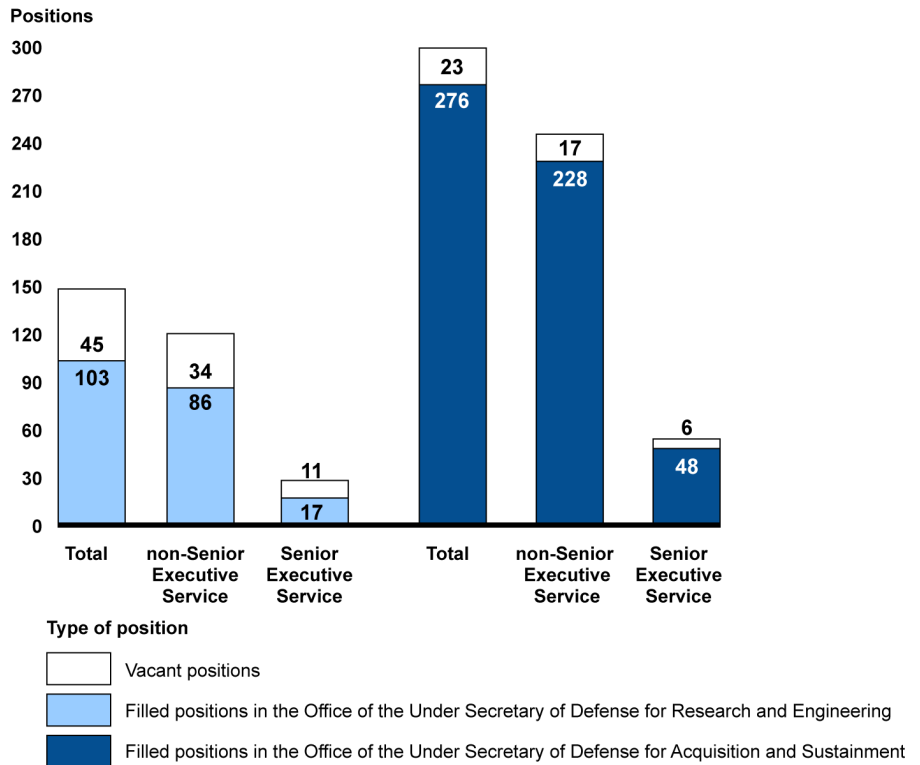
Source: GAO analysis of Department of Defense data. | GAO-19-439

Notes: The vacancy numbers do not include vacant positions that are slotted for future reduction or transfer. These numbers also do not reflect defense agencies aligned to these organizations, such as the Defense Innovation Board or the Defense Acquisition University.

Both Under Secretaries have experienced challenges while staffing their offices. For example:

- The Office of the Under Secretary of Defense for Acquisition and Sustainment has experienced challenges stemming from needing to meet required personnel reductions while also hiring staff to align with the revised priorities from the reorganization. As part of the restructuring, the office will absorb all of the 57 remaining civilian and military position reductions that were originally assigned to the former Office of the Under Secretary of Defense for Acquisition, Technology and Logistics. These reductions will occur during both fiscal years 2019 and 2020. At the same time, officials said they are still working

to hire staff with skills in needed areas such as data analytics. Officials said they are leveraging existing authorities such as voluntary early retirement authority and voluntary separation incentive payments to meet their targeted number of authorized positions by the end of fiscal year 2020.

- Officials from the Office of the Under Secretary of Defense for Research and Engineering said their challenges have primarily been negotiating the appropriate number of positions for the organization and staffing the organization in a timely manner. For example, 13 positions are not currently available to be filled because they will not be transferred from the Office of the Under Secretary of Defense for Acquisition and Sustainment until fiscal year 2020. The officials also stated that there have been delays related to developing new position descriptions, revalidating existing position descriptions, and finding individuals with the right skill sets for positions.

- Both offices have been delayed in filling key leadership positions. According to officials from these offices, vacant positions include the Deputy Director of Mission Engineering and Integration, the Director of Systems Engineering, and the Principal Director of Defense Pricing and Contracting. Senior officials from both offices told us that they have been unable to fill some vacant senior executive positions since the most recent Secretary of Defense resigned on December 31, 2018. The inability to fill these positions is due to the Office of Personnel Management's general policy to suspend processing for senior executive service career appointments when an agency head leaves, until a successor is appointed at the agency.[27] As of March 2019, a new Secretary of Defense had yet to be confirmed. Senior level officials also told us that some decisions about structure and staffing may be held up until after these executive positions are filled, but that in the interim, they are moving forward with daily operations and in some instances have other employees acting in those roles.

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[27]U.S. Office of Personnel Management: *Guide to the Senior Executive Service* (Mar. 2017).

Military Departments Are Using Middle-Tier Acquisition Pathways, but DOD Has Yet to Determine How Certain Aspects of Program Oversight Will Work

As of March 2019, the military departments had begun using middle-tier acquisition pathways for over 35 rapid prototyping and rapid fielding programs under interim guidance issued by the Under Secretary of Defense for Acquisition and Sustainment and the military departments. However, DOD has yet to determine certain aspects of program oversight, including what information military departments should consider in selecting programs and what metrics and data the Office of the Secretary of Defense and military department leaders should use to assess performance.

Military Departments Are Using Middle-Tier Acquisition Pathways to Execute Programs of Varying Costs and Complexity

The Departments of the Air Force, Army, and Navy have begun to execute over 35 unclassified and classified acquisition programs using new acquisition pathways distinct from the traditional DOD acquisition process.[28] Section 804 of the National Defense Authorization Act for Fiscal Year 2016 required DOD to issue guidance establishing two new streamlined acquisition pathways for DOD—rapid prototyping and rapid fielding—under the broader term "middle tier of acquisitions." According to the Joint Explanatory Statement accompanying the National Defense Authorization Act, the guidance was to create an expedited and streamlined "middle tier" of acquisition programs intended to be completed within 5 years. The Joint Explanatory Statement noted that middle-tier programs would be distinctive from rapid acquisitions that are generally completed within 6 months to 2 years and traditional acquisitions that last much longer than 5 years. Statute lays out more specific intended time frames and expectations for programs using these two pathways:

- **The rapid prototyping pathway** is to provide for the use of innovative technologies to rapidly develop fieldable prototypes to demonstrate new capabilities and meet emerging needs. The objective of a rapid prototyping program is to field a prototype that can be demonstrated in an operational environment and provide for a residual operational capability within 5 years of the development of an approved requirement.

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[28]In addition to the middle-tier programs initiated by the military departments, as of March 2019, the Defense Information Systems Agency had also initiated one rapid prototyping program and the U.S. Special Operations Command had initiated three rapid prototyping and two rapid fielding programs.

- **The rapid fielding pathway** is to provide for the use of proven technologies to field production quantities of new or upgraded systems with minimal development required. The objective of a rapid fielding program is to begin production within 6 months and complete fielding within 5 years of the development of an approved requirement.

Middle-tier acquisition pathways are distinct from the traditional acquisition system for major defense acquisition programs.[29] These pathways allow for programs to be exempted from the acquisition and requirements processes defined by DOD Directive 5000.01 and the *Manual for the Operation of the Joint Capabilities Integration and Development System*.[30] The statute does not identify a dollar limit for programs using middle-tier acquisition pathways.

Middle-tier programs are typically approved for initiation by the service acquisition executive, although Air Force policy also allows for smaller programs to be initiated by the program executive officer. Table 3 shows the number of unclassified programs initiated by the military departments as of March 2019.

Table 3: Number and Type of Unclassified Programs Started by the Military Departments under Middle-Tier Acquisition Pathways as of March 2019

Military Department	Number of Rapid Prototyping Programs Initiated	Number of Rapid Fielding Programs Initiated	Total Number of Middle-Tier Acquisition Programs Initiated
Air Force	20	4	24
Army	8	0	8
Navy	3	0	3
Total	**31**	**4**	**35**

Source: GAO analysis of Department of Defense data. | GAO-19-439

Note: The Air Force reported it has classified middle-tier programs, but the number of such programs has not been disclosed and those programs are not included in this table. The Army and Navy did not identify any classified middle-tier programs.

[29]The term "major defense acquisition program" does not include an acquisition program or project that is carried out using the rapid fielding or rapid prototyping pathway under section 804 of the National Defense Authorization Act for Fiscal Year 2016. 10 U.S.C. § 2430(a)(2).

[30]J-8, Joint Staff, *Manual for the Operation of the Joint Capabilities Integration and Development System* (Aug. 31, 2018).

The middle-tier programs initiated to date represent a range of products, dollar amounts, and complexity. For example, one of the smaller dollar value programs is an approximately $30 million Navy effort to develop a prototype rocket motor that would support extended ranges for an existing missile. One of the larger dollar value programs is a multibillion dollar Army effort to develop the next generation combat vehicle. The military departments generally require funding these programs through the traditional budget process, using DOD's existing planning, programming, budgeting, and execution process. Based on estimated program costs reported by the military departments, we found that approximately half of the programs initiated to date would be categorized as major defense acquisition programs if they were not being pursued under a middle-tier pathway. In some cases, such as the Army's Lower Tier Air and Missile Defense Sensor program, an existing program planned as a major defense acquisition program shifted to a middle-tier acquisition pathway. Appendix V includes a list of middle-tier acquisition programs started by the military departments as of March 2019.

DOD Has Issued Interim Guidance, but Has Yet to Determine Certain Aspects of Middle-Tier Program Oversight

Although DOD and the military departments have issued interim guidance for using middle-tier acquisition pathways, we found that DOD has not provided department-wide guidance on how certain aspects of program oversight will be conducted. DOD has yet to determine what types of business case information should be submitted to decision makers to help ensure well-informed decisions about program initiation and how program performance will be measured consistently.

DOD and the Military Departments Have Each Issued Interim Guidance

Section 804 of the National Defense Authorization Act for Fiscal Year 2016 required the Under Secretary of Defense for Acquisition, Technology and Logistics to establish guidance for middle-tier acquisitions. In response, the Under Secretary of Defense for Acquisition and Sustainment issued interim guidance in April 2018 that provided the military departments and other DOD components with the authority to implement middle-tier acquisition programs on an interim basis through September 30, 2019.[31] The guidance laid out the broad purposes and requirements of middle-tier acquisition authorities, and encouraged the

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[31]Department of Defense, Under Secretary of Defense (Acquisition and Sustainment): *Middle Tier of Acquisition (Rapid Prototyping/Rapid Fielding) Interim Authority and Guidance* (Apr. 16, 2018). The memorandum states that the time period of the interim authority may be extended beyond September 30, 2019, at the discretion of the Under Secretary of Defense for Acquisition and Sustainment.

military departments and other DOD components using middle-tier acquisition pathways to develop specific implementation processes and procedures to implement the interim authority. Between April 2018 and September 2018, the military departments each issued their own implementing guidance, which provided additional details on how middle-tier programs would be selected and overseen within their department during the period of the interim authority.[32]

Subsequently, the Under Secretary of Defense for Acquisition and Sustainment issued two additional interim guidance memorandums: the first in October 2018, which described how the Office of the Secretary of Defense and the Joint Staff would conduct oversight of the military departments' use of middle-tier acquisition pathways, and the second in March 2019, which addressed sustainment planning considerations for programs using the rapid fielding pathway.[33] The Director, Cost Assessment and Program Evaluation, also issued guidance in April 2019 that included a life-cycle cost estimating policy for programs using the rapid fielding pathway.[34]

DOD Guidance Does Not Consistently Identify Business Case Elements to Be Developed and Considered for Program Selection

Statute requires that the guidance from the Office of the Secretary of Defense include a "merit-based process" for considering potential middle-tier programs, although the interim guidance does not describe what the process should include or what information should be considered by decision makers to assess merit other than meeting the needs communicated by the Joint Chiefs of Staff and the combatant commanders. Guidance from each of the military departments provides

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[32]Department of the Air Force, Office of the Assistant Secretary of the Air Force (Acquisition, Technology and Logistics), Memorandum No. AFGM2018-63-146-01: *Air Force Guidance Memorandum for Rapid Acquisition Activities* (June 13, 2018); Department of the Army: *Office of the Assistant Secretary of the Army (Acquisition, Logistics and Technology) Middle-Tier Acquisition Policy* (Sept. 25, 2018); and Department of the Navy, Assistant Secretary (Research, Development and Acquisition): *Middle Tier Acquisition and Acquisition Agility Guidance* (Apr. 24, 2018).

[33]Department of Defense, Under Secretary of Defense (Acquisition and Sustainment): *Middle Tier of Acquisition (Rapid Prototyping/Rapid Fielding) Interim Governance* (Oct. 9, 2018) and Department of Defense, Under Secretary of Defense (Acquisition and Sustainment): *Middle Tier of Acquisition (Rapid Prototyping/Rapid Fielding) Interim Governance 2* (Mar. 20, 2019).

[34] Department of Defense, Director, Cost Assessment and Program Evaluation: *Life-Cycle Cost Estimating Policy for Programs Carried Out Using the Rapid Fielding Pathway Under Section 804 of the National Defense Acquisition Act (NDAA) for Fiscal Year (FY) 2016 (Public Law 114-92)* (Apr. 05, 2019).

additional detail on the program selection process, to include describing generally the type of information decision makers should consider when selecting programs. Neither the Office of the Secretary of Defense's guidance nor the military departments' guidance fully identifies key elements of a business case to be provided as part of the program initiation process.

Our past work has shown that in order to make sound decisions about initiating acquisition programs, it is important that decision makers have the information they need to assess the business case, including that (1) the warfighter need exists and that it can best be met with the chosen concept and (2) the concept can be developed and produced within existing resources.[35] Information needed to establish a business case for a traditional acquisition program typically includes a requirements document (which provides information on the capabilities required of the weapon system); the strategy for acquiring the weapon system; sound cost estimates based on independent assessments; and a realistic assessment of risks, including those risks related to technology and schedule. For a middle-tier acquisition program, business case information would help decision makers make well-informed decisions, to include assessing whether the program is likely to meet objectives established in statute to complete a prototype with a residual operational capability (in the case of a rapid prototyping program) or complete fielding (in the case of a rapid fielding program) within 5 years of an approved requirement.

Programs using a middle-tier pathway are intended to be completed within 5 years, and guidance may provide for expedited and streamlined procedures. As a result, the appropriate documents to provide business case information for a middle-tier acquisition program may not need to be as detailed as those for a major defense acquisition program. These documents may also vary to some extent depending on whether a program is a rapid prototyping or a rapid fielding program. However, having this type of information available in some form at program initiation can help decision makers to assess the soundness of a program's business case at the time a decision is made to start a new program. Oversight at this time is critical because, as we have previously reported, program initiation presents the greatest point of leverage in the program

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[35]GAO-15-192.

life cycle for decision makers.[36] Table 4 provides additional detail about certain types of business case documentation that are to be considered at program initiation for middle-tier acquisition programs according to the Office of the Secretary of Defense and the military departments' guidance.

Table 4: Extent to Which Department of Defense Guidance Documents Address Certain Elements of Business Case Documentation to Be Provided for Program Initiation for Middle-Tier Acquisition Programs

Element	GAO Assessment	Description of Guidance
Requirements		
Office of the Secretary of Defense	○	States that organizations using middle-tier authority will determine what constitutes an approved requirement or may leverage an existing requirement.
Air Force	◐	For rapid prototyping, encourages but does not require requirements to be validated within 1 year of program initiation. For rapid fielding, requires a validated requirement prior to commitment of funds unless waived by the service acquisition executive.
Army	◔	For rapid prototyping and rapid fielding, requirements must be approved within 6 months of program initiation.
Navy	◔	For rapid prototyping and rapid fielding, requirements must be approved within 6 months of program initiation.
Acquisition strategy		
Office of the Secretary of Defense	○	States that organizations using middle-tier authority shall adhere to a process for developing and implementing acquisition and funding strategies for the program.
Air Force	●	For rapid prototyping and rapid fielding, requires the development and approval of an acquisition strategy document at program initiation that includes program oversight plans such as required program documentation, decision points, metrics, and cost, schedule, risk, and performance objectives. Also requires additional elements that address the strategy for acquiring the system to be documented, such as acquisition and funding requirements, risk management, transition planning, and test planning but does not specify when that information needs to be documented. According to an Air Force official, the timing for developing these acquisition strategy elements is intended to be flexible to allow for tailoring of documentation to meet program needs.
Army	●	For rapid prototyping and rapid fielding, requires programs to provide a program strategy to the service acquisition executive at program initiation.
Navy	○	For rapid prototyping and rapid fielding, guidance does not require an acquisition strategy but includes it in the list of documents a program manager should consider developing. According to Navy officials, in practice, the milestone decision authority will not approve middle-tier programs without an acquisition strategy, which may be satisfied by an acquisition strategy briefing.

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[36]GAO, *Defense Acquisitions: Joint Action Needed by DOD and Congress to Improve Outcomes,* GAO-16-187T (Washington, D.C.: Oct. 27, 2015).

Element	GAO Assessment	Description of Guidance
Cost estimates based on independent assessments		
Office of the Secretary of Defense	◑	States that organizations using middle-tier authority must submit budget data to the Office of the Under Secretary of Defense for Acquisition and Sustainment. For rapid prototyping, does not address how or when cost estimates should be conducted or whether independent assessments of the estimates should be required. For rapid fielding, requires the development of a life-cycle cost estimate signed by the Director of the relevant Department of Defense Component Cost Agency within 60 days of program initiation.
Air Force	◑	For rapid prototyping and rapid fielding, requires cost objectives to be developed at program initiation. Also requires life-cycle costs to be included in the acquisition strategy document, but does not specify when this information is required. Requires a non-advocate cost assessment for programs with costs equivalent to a major defense acquisition program.
Army	○	For rapid prototyping and rapid fielding, requires programs to propose cost objectives and estimated life-cycle costs in the program strategy provided at program initiation. Does not require independent assessment of program cost estimates.
Navy	○	For rapid prototyping, does not require a cost estimate but states that cost will be considered during the program selection process. For rapid fielding, the acquisition decision memorandum at program initiation includes a program cost estimate. Does not require independent assessment of program cost estimates.
Risk assessment, including risks related to technology and ability to meet statutory schedule objectives		
Office of the Secretary of Defense	○	Guidance does not address risk assessments.
Air Force	◑	For rapid prototyping and rapid fielding, requires risk objectives to be developed at program initiation. Also requires risk management to be documented in the acquisition strategy document, but does not define specific types of risk to be included or specify when the risk management approach needs to be documented.
Army	◑	For rapid prototyping and rapid fielding, requires programs to discuss risks and risk mitigation in the program strategy provided at program initiation but does not define specific types of risk to be included.
Navy	○	For rapid prototyping and rapid fielding, does not require any specific documentation of risk, but states that technical risk will be considered during program selection.

Legend:

● = required by guidance before or at program initiation

◑ = required by guidance but not before or at program initiation, or required for only some programs

○ = not required by guidance

Source: GAO analysis of GAO-15-192 and Department of Defense guidance. | GAO-19-439

Section 804 of the National Defense Authorization Act for Fiscal Year 2016 directed the Under Secretary of Defense for Acquisition, Technology and Logistics to establish guidance for middle-tier acquisitions within 180 days of enactment of the statute (which would have been May 2016), but guidance was not issued until April 2018. According to officials who were involved in efforts to develop the guidance, the Office of the Secretary of Defense circulated multiple iterations of draft guidance, but was unable to reach agreement with the military departments because of concerns that

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the guidance was too burdensome. These officials told us that as a result, the Under Secretary of Defense for Acquisition and Sustainment decided instead to issue broad interim guidance and allow each of the military departments and other DOD components to develop processes and procedures to implement the interim authority. As stated in the Under Secretary of Defense for Acquisition and Sustainment's April 2018 interim guidance, the Under Secretary of Defense for Acquisition and Sustainment would develop final guidance for the department in 2019 based on lessons learned from the military departments and other DOD components. According to officials from the Office of the Under Secretary of Defense for Acquisition and Sustainment, the Under Secretary began the process in February 2019 to develop this final guidance. The process was in its initial stages as of March 2019 and officials involved told us they hope to complete the final guidance by September 2019.

The business case information programs provided to decision makers at initiation varied widely for nine middle-tier acquisition programs we reviewed. We found that certain types of business case information, such as an assessment of schedule risk that would indicate whether a program could realistically be expected to be completed within time frame objectives in statute, were often not completed at the time of program initiation. For example:

- Six programs had approved requirements at program initiation. Three of these programs had requirements validated through DOD's traditional requirements process prior to the decision to start under a middle-tier pathway. Two of these programs, both of which were Air Force programs, had previously planned to start as major defense acquisition programs. The third program, an Army program, had requirements based on those approved for an existing major defense acquisition program. The other three of these programs, all of which were Navy programs, had high-level requirements that described, for example, what environments the system should be tested in or what quantity should be fielded. These requirements were approved by the Navy's Accelerated Acquisition Board of Directors, which includes the Chief of Naval Operations and the Assistant Secretary of the Navy for Research, Development and Acquisition, among other officials. Three

programs were still in the process of developing requirements at the time of program initiation.[37]

- Only one of the nine programs had an approved acquisition strategy at the time of program initiation. Officials from the other programs told us they planned to develop an acquisition strategy or were in the process of developing or updating one.

- While all nine of the programs had developed at least a draft cost estimate at program initiation, only one of the nine programs had an assessment of its program cost estimate completed by the military department cost agency at the time of program initiation.[38] Officials from three other programs said that an assessment by the military department cost agency was in progress or planned. Officials from the other five programs told us they had developed a draft cost estimate at program initiation that in some cases was still expected to change and that they did not plan for an assessment by the military department cost agency.

- The programs varied in the extent to which they assessed risk at program initiation. Four programs had risk assessments that addressed schedule and technology risks, which are types of risks we have identified in our previous work as important to understanding a program's business case. Two other programs had risk assessments that included either schedule or technology risks but not both. Officials from the other three programs stated that they were still in the process of assessing risks and had yet to assess risks related to meeting statutory schedule objectives at the time of program initiation.

Without the Office of the Under Secretary of Defense for Acquisition and Sustainment identifying in its final guidance the minimum program information needed to help decision makers evaluate the program's business case, DOD cannot ensure that the military departments are consistently considering these types of information. As a result, DOD is

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[37] The requirements for one of these three programs, an Army program, were subsequently validated within six months of program initiation, in accordance with the time frame for requirements validation established in the Army's guidance on middle-tier acquisitions.

[38] As of March 2019, each military department headquarters had its own cost agency. The military department cost agencies reside in the financial management organizations of their military departments and are outside their military department's acquisition chain of command. For the purposes of this report, we considered assessments conducted by military department cost agencies on middle-tier acquisition programs to be independent assessments.

not well positioned to ensure that approved middle-tier acquisition programs represent sound investments and are likely to meet the objective of delivering prototypes or capability to the warfighter within 5 years.

DOD Has Yet to Identify Metrics to Monitor Program Performance in a Consistent Manner

The Office of the Secretary of Defense and the military departments generally collect program data but we found that neither the Office of the Secretary of Defense nor the military departments has identified metrics that would allow them to use that data to measure and report on program performance in a consistent manner. Developing such metrics would allow senior leaders in the Office of the Secretary of Defense and the military departments to monitor and assess performance across the portfolio of middle-tier programs during program execution, including whether programs are on track to meet statutory objectives for rapid prototyping and rapid fielding. Table 5 provides additional detail on the extent to which guidance addresses the collection of program data and identification of metrics to measure program performance.

Table 5: Extent to Which Department of Defense and Military Department Guidance Documents Address Collection of Program Data and Identification of Performance Metrics for Middle-Tier Acquisition Programs

	Office of the Secretary of Defense	Air Force	Army	Navy
Collection of Program Data	Program data such as program budget and schedule for all middle-tier programs must be submitted to the Office of the Under Secretary of Defense for Acquisition and Sustainment on a quarterly basis.	The program manager should provide adequate information to support Air Force evaluation of cost, schedule, and performance and to support other required reporting. The program manager will ensure standard information is reported in Air Force data systems and the program shall be reported in the Air Force's master investment list.	The program manager will provide data to support data collection from the Office of the Secretary of Defense, will report the program in the Army's master list of programs, and will provide the decision authority with an annual assessment of the program's status on cost, schedule, and performance objectives.	No specific data are required for oversight purposes. The program manager should make recommendations to the approval authority to identify which documents will best support program execution.
Identification of Metrics to Measure Program Performance	Does not address the development of metrics.	The milestone decision authority will approve metrics and thresholds that trigger a notice to or review by the milestone decision authority. Encourages tailored metrics to track progress.	The decision authority will develop and track measurable, quantifiable metrics that assess technical performance parameters, cost, and schedule.	Does not address the development of required metrics. For rapid prototyping programs, program managers have the option of developing a prototyping plan, which should address performance goals if developed.

Source: GAO analysis of Department of Defense documents. | GAO-19-439

The Office of the Secretary of Defense began collecting middle-tier program data from the military departments in November 2018 as part of an effort to ensure that middle-tier authority was being used appropriately within the department. However, the office has yet to determine what metrics it will use to measure program performance consistently across the portfolio. Officials within the Office of the Secretary of Defense who are involved with collecting the data told us that they are still refining what data should be collected, determining how to standardize definitions to improve the consistency of data, and considering how to use the data collected to monitor program execution. For example, they are still trying to determine the appropriate triggers that would allow them to know that a middle-tier program may be experiencing cost or schedule challenges.

Similarly, guidance from two of the three military departments requires the collection of program data, but the military departments also have not identified metrics to consistently measure performance across programs. The Navy's guidance does not require the collection of program data or identify metrics to measure program performance. Interim guidance from the Air Force and the Army requires the collection of program data and also requires programs to develop metrics to measure performance, but these metrics are not required to be consistent across programs. Decisions about specific metrics to be reported are left to the discretion of the decision authority for each program, who is typically the service acquisition executive or a program executive officer. As a result, these metrics may not allow consistent measurement of performance across programs because, for example, programs may have a different starting point for reporting data, or may change the metrics that are being assessed at different points within the life of a program.

According to federal internal control standards, the ability of agency management to compare actual performance to planned or expected results throughout the organization and analyze significant differences is important to help ensure that the agency is meeting objectives and addressing risks appropriately.[39] These standards also state that agency management should define objectives in quantitative or qualitative terms to permit reasonably consistent measurement of performance toward those objectives. For middle-tier acquisition programs, statute includes objectives related to fielding time frames for both rapid prototyping and rapid fielding programs. Additionally, for rapid prototyping, part of the objective is that the prototype fielded can be demonstrated in an operational environment and provide for residual operational capability.

Middle-tier acquisition programs are to be provided streamlined processes, including for program oversight. Decisions about how to measure program performance therefore should be considered in light of how to facilitate oversight without losing the benefits of the flexibilities offered by middle-tier pathways. However, without the Office of the Under Secretary of Defense for Acquisition and Sustainment identifying in its final guidance a minimum set of metrics that can be used to measure performance of programs across the military departments, DOD risks not knowing how the department's portfolio of middle-tier programs is progressing, including whether programs are on track to meet statutory

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[39]GAO-14-704G.

objectives for rapid prototyping and rapid fielding. As a result, senior leaders in the Office of the Secretary of Defense and the military departments may lack insight needed to identify and address emerging challenges in a timely manner. This is particularly important given that the portfolio includes complex, costly programs that address important capability gaps for the department.

DOD Faces Challenges in Addressing Disagreements about Oversight Roles and Responsibilities, Improving Portfolio Management, and Assessing Effectiveness of Reforms

While DOD has made progress implementing individual reforms, it continues to face challenges that affect the implementation of the reforms we reviewed. First, we found that senior DOD leadership has not fully addressed disagreements about the division of acquisition oversight roles and responsibilities between the Office of the Secretary of Defense and the military departments. As a result, there have been continuing differences of opinion about how to implement specific reforms. Second, DOD has yet to address persistent portfolio management challenges that affect its ability to effectively manage its portfolio of weapon system investments. Lastly, DOD has yet to develop processes to assess the effectiveness of recent reforms. Without developing such processes, DOD officials will not be well positioned to assess whether reforms are having the intended effects, such as improving innovation and delivering capability to the warfighter more quickly, or if additional changes are necessary to achieve such outcomes.

Top DOD Leadership Has Not Fully Addressed Continuing Disagreements over the Division of Roles and Responsibilities for Acquisition Oversight

Top DOD leadership has not fully addressed disagreements that remain about the division of acquisition oversight responsibilities between the Office of the Secretary of Defense and the military departments. Our past work has shown that in times of significant organizational transformation, top leadership must set the direction, pace, and tone for the transformation. Personal involvement of these leaders in driving change, including the Secretary and Deputy Secretary, helps provide stability.[40] Internal control standards for federal agencies also emphasize the importance of management communicating information down and across organizational levels in order to enable personnel to perform key roles in achieving objectives and addressing risks.[41] The Deputy Secretary of Defense has weighed in on the division of acquisition oversight

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[40]GAO-03-669.

[41]GAO-14-704G.

responsibilities within the Office of the Secretary of Defense and has addressed specific roles and responsibilities for certain reforms. However, despite continuing disagreements about the division of oversight roles and responsibilities between the Office of the Secretary of Defense and the military departments, DOD's top leadership has not provided a detailed framework addressing the appropriate roles of each party for acquisition oversight.

Officials from the Office of the Secretary of Defense and the military departments we met with expressed different opinions on the appropriate oversight role of the Office of the Secretary of Defense. For example, the Under Secretaries of Defense for Research and Engineering and Acquisition and Sustainment both stated that in cases where the milestone decision authority is at the military department level, the military departments do not see the value in having the Office of the Secretary of Defense involved. This is consistent with concerns that officials from all three military departments have raised in speaking with us. Specifically, officials from all three departments raised concerns that the Office of the Secretary of Defense is overreaching on its oversight responsibilities in some cases, and creating new oversight processes that contradict the intent of recent reforms to speed up the acquisition process.

Implementation of several of the reforms we reviewed has resulted in disagreements between the Office of the Secretary of Defense and the military departments that have yet to be resolved. For example:

- **Cost, fielding, and performance goals.** Despite the issuance of policy by the Deputy Secretary of Defense in November 2018 on the establishment of cost, fielding, and performance goals, military department officials have continued to express concerns that the process is too burdensome and involves too many stakeholders from the Office of the Secretary of Defense. These officials stated that Office of the Secretary of Defense involvement in programs with decision authority at the military departments, such as participation in meetings with the milestone decision authority to provide advice on cost, fielding, and performance goals, would slow down programs that other reforms were intended to accelerate. They added that they had expressed these concerns to the Office of the Secretary of Defense during the drafting of the policy, but they did not feel that their input was appropriately considered in the final policy. Officials from the Office of the Under Secretary of Defense for Acquisition and Sustainment stated that the analysis and meetings that involve the Office of the Secretary of Defense are ways for stakeholders to advise

the milestone decision authority on program decisions based on information from existing oversight mechanisms, such as independent cost estimates and analyses of alternatives. Previously this type of oversight was conducted via multiple meetings leading up to program milestones. The policy states that the policy procedures will be revisited in 6 months and lessons learned incorporated where needed.

- **Independent technical risk assessments.** Debates about who should conduct independent technical risk assessments were elevated to the Deputy Secretary of Defense. Subsequently, the Deputy Secretary issued guidance in December 2018 to reiterate that the Under Secretary of Defense for Research and Engineering would conduct or approve these assessments for all major defense acquisition programs, although that responsibility may be delegated. However, despite the issuance of new guidance, there continue to be ongoing debates about when assessments will be delegated to the military departments. The December 2018 guidance does not include criteria for when responsibility for the assessments may be delegated. Officials from the Office of the Under Secretary of Defense for Research and Engineering said that decisions about whether to delegate assessments should be based primarily on the risk level of the program, but officials from military departments stated that these assessments should be conducted within the military department. Officials from the Office of the Under Secretary of Defense for Research and Engineering told us that they had convened a joint working group with the military departments in February 2019 to address this and other implementation issues related to independent technical risk assessments. In the meantime, nearly all assessments continue to be conducted by the Office of the Under Secretary of Defense for Research and Engineering.

- **Middle-tier acquisition.** Office of the Secretary of Defense and military department officials also disagree on the extent to which the Office of the Secretary of Defense should weigh in on the appropriateness of a program using a middle-tier pathway. DOD's October 2018 interim governance guidance provided that the Office of the Secretary of Defense may determine that specific programs were not appropriate for a middle-tier pathway. However, officials from the Air Force and the Army expressed concerns to us about whether that determination was appropriate to be made by the Office of the Secretary of Defense since, from their perspective, programs should be selected at the military department level. Office of the Secretary of Defense officials also told us that there are differences of opinion between them and the military departments on the appropriate

amount of information that programs should report to the Office of the Secretary of Defense, including whether the same information should be provided by all middle-tier programs, regardless of expected program cost. As stated earlier, DOD is in the process of finalizing guidance for middle-tier acquisition programs, which could address these issues.

Documents that could outline roles and responsibilities of the various parties for acquisition oversight are still being developed. For example, as discussed earlier, officials from the Offices of the Under Secretaries of Defense for Research and Engineering and Acquisition and Sustainment told us that chartering directives for these offices, which are expected to be completed in July 2019, may address to some extent how the offices should work together and with the military departments and other external organizations. In addition, officials from the Office of the Under Secretary of Defense for Acquisition and Sustainment told us that while reforms are currently being implemented under multiple different polices and guidance documents, DOD Instruction 5000.02 will be substantially revised, including to reflect the latest reforms. When completed, the instruction is expected to provide further detail on how oversight activities will be carried out by various acquisition entities. Officials stated that they hoped to complete a version of the revision of DOD Instruction 5000.02 by the end of 2019, but they acknowledged that this estimate was optimistic and that it might take longer than expected to come to agreement on this policy.

Without a comprehensive framework from top leadership in the near term that addresses acquisition oversight roles and responsibilities in detail, DOD's ability to continue with reform implementation, including its ability to finalize policies that could clarify roles and responsibilities, may be slowed by ongoing disagreements. In the longer term, without resolving these issues, DOD cannot ensure that it is achieving the balance between oversight and accountability and efficient program management that senior leadership expects as an outcome of acquisition reform. With too little oversight, acquisition programs may not be properly scrutinized before they are started, which could lead to poor program cost and schedule outcomes. Alternatively, if new oversight processes are too burdensome, DOD may not achieve the expected benefits of streamlining its acquisition processes.

DOD Has Yet to Address Persistent Weapon System Portfolio Management Challenges

As part of this review, we also assessed DOD's efforts to implement our previous portfolio management recommendations and identified opportunities and challenges related to portfolio management that DOD may face as it continues to implement acquisition reforms. Our past work has shown that when investments are not managed as a portfolio at the enterprise level (meaning at the level of the Office of the Secretary of Defense, Joint Chiefs of Staff, and Joint Staff), the military departments plan to acquire more weapons than DOD can afford, sometimes develop potentially duplicative solutions to common needs, and do not always choose an optimal mix of investments to ensure the department can maintain its technological edge in the future.[42]

Realigning roles and responsibilities for decisions related to weapon system programs between the Office of the Secretary of Defense and the military departments could lead to further questions about who is ultimately responsible and accountable for portfolio management decisions if leadership roles are not clearly defined. Officials we met with from the Office of the Secretary of Defense told us that questions remain about the division of responsibilities between the Office of the Secretary of Defense and the military departments for making these types of portfolio management decisions. They told us that concerns we had previously identified about the division of decision-making authority for portfolio management had yet to be addressed during the implementation of recent acquisition reforms, and that in some cases, the reforms had led to additional questions. For example, the Under Secretary of Defense for Research and Engineering told us that while the statute that created his position as part of the restructuring of the former Office of the Under Secretary of Defense for Acquisition, Technology and Logistics assigns him responsibility for allocating resources for defense research and engineering, because he does not have control over the research and engineering budget, in actuality the military departments decide how to prioritize their investments.

We found in August 2015 that DOD has had difficulty implementing portfolio management at the enterprise level in part due to diffuse decision-making responsibilities that make it difficult to determine who is empowered to make enterprise-level weapon system investment

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[42]GAO, *Weapon System Acquisitions: Opportunities Exist to Improve the Department of Defense's Portfolio Management,* GAO-15-466 (Washington, D.C.: Aug. 27, 2015); and *Defense Science and Technology: Adopting Best Practices Can Improve Innovation Investments and Management,* GAO-17-499 (Washington, D.C.: June 29, 2017).

decisions. At that time, we recommended that DOD revise its portfolio management directive in accordance with portfolio management best practices. We also recommended that the Secretary of Defense designate the Deputy Secretary of Defense or some appropriate delegate responsible for the directive's implementation, among other recommendations. DOD partially concurred with the recommendations, but the planned actions DOD identified at the time of our report did not fully address the issues we identified. For example, DOD stated that it did not plan to revise its portfolio management directive as we recommended, but instead planned to rescind it and direct stakeholders to participate in portfolio management through the requirements, acquisition, and budget processes. In response, we expressed concern that this approach could reinforce the stove-piped governance structure that we found to be an impediment to integrated portfolio management.

As of March 2019, DOD had yet to implement our recommendations. An official from the Office of the Under Secretary of Defense for Acquisition and Sustainment told us that DOD is revising its portfolio management directive, but that there was not yet an estimated completion date.[43] We are not making new recommendations on portfolio management in this report, but we continue to believe that DOD should implement our prior recommendations in order to improve its portfolio management capabilities. See appendix VI for additional details on our assessment of DOD's progress in this area.

DOD Has Yet to Develop Processes to Assess the Effectiveness of Acquisition Reforms

DOD is beginning to monitor the implementation of certain reforms, but has yet to establish processes to assess the overall effectiveness of its reform efforts. Collectively, the reforms offer the potential for DOD to significantly reduce the time needed to approve and field acquisition programs by allowing the military departments additional opportunities to tailor documents needed for approval and limiting oversight by the Office of the Secretary of Defense. Ultimately, DOD anticipates that this opportunity will improve the speed at which new capabilities are delivered to the warfighter.

Our prior work has identified steps that agencies, such as DOD, can take to help ensure successful implementation of reform efforts, including

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[43]Department of Defense Directive No. 7045.20, *Capability Portfolio Management* (Sept. 25, 2008, Incorporating Change 1, May 25, 2017).

- establishing clear outcome-oriented goals and performance measures for reforms, and

- putting in place processes to collect the needed data and evidence to effectively measure the reforms' outcome-oriented goals.[44]

The Office of the Secretary of Defense has taken some initial steps to collect data that may help to measure the outcomes of a few reforms, but has yet to determine goals or processes for assessing the overall effectiveness of the reforms. For example, as previously discussed, the Office of the Under Secretary of Defense for Acquisition and Sustainment began initial efforts to collect middle-tier acquisition program data, such as cost and schedule data, from the military departments in November 2018. Officials from that office told us that once they address reliability concerns with the data they are receiving, such as ensuring that programs report schedule data in a consistent fashion, they anticipate that they will be able to use the data to better understand the military departments' use of middle-tier acquisition pathways. However, according to officials we spoke with from the offices of the Under Secretaries of Defense for Research and Engineering and Acquisition and Sustainment, DOD has not determined how it will assess whether the reforms are collectively resulting in an acquisition process that is more efficient or how it will measure their effect on cost and schedule outcomes. These officials told us that it is important to have data to assess the effect of recent acquisition policy and organizational changes, but they have not determined specifically who will do the assessment, how it will be done, and what data will be needed. They told us that as a part of the reorganization of the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, they are still in the process of assessing data gaps and needs within the newly-formed organizations and that this type of analysis needs to be completed before they determine how they will assess recent reforms.

We recognize that assessing the cumulative effect of recent acquisition reforms on the acquisition process and on the cost and schedule performance of the major defense acquisition program portfolio could take several years because a critical mass of programs will need to go through the new acquisition processes. In the interim, however, determining how an assessment of reforms will be conducted is an important first step in determining whether the reforms are having their intended effect. If DOD

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[44]GAO-18-427.

officials wait too long to plan for how the department will assess the effect of recent acquisition reforms, including identifying who will be responsible for the assessment and what data will be needed, they may miss the opportunity to collect data from the beginning of implementation needed to measure progress. As a result, they may not be informed about early indications of improvements or problems in the cost, schedule, and performance of programs.

Conclusions

Recent acquisition reforms have given DOD significant opportunity to focus on delivering innovative capability to the warfighter more quickly and reduce bureaucratic processes that had built up over time. While DOD has made progress in implementing these reforms, continued attention from top leadership would help ensure that the progress the department has made is not unnecessarily slowed or halted. Middle-tier acquisition will require careful consideration as the department proceeds with the development of final guidance. Middle-tier programs are generally exempt from traditional acquisition and requirements processes, but they may still be large, expensive programs critical to the department's ability to meet its mission. Identifying the types of business case elements decision makers should consider when initiating programs would improve the department's ability to ensure that the programs the military departments select are sound investments and likely to succeed using a middle-tier acquisition pathway. Identifying metrics to track performance consistently across the portfolio of middle-tier programs will provide necessary information to senior leaders once programs have been started to assess the performance of middle-tier acquisition programs, including whether they are well positioned to meet statutory objectives.

The department also faces challenges that affect the implementation of the reforms we reviewed. These sweeping changes have resulted in some disagreements about oversight roles and responsibilities between the Office of the Secretary of Defense and the military departments that have not been fully resolved. Clear communication from top leadership of a framework for oversight roles and responsibilities that is detailed enough to address areas of continued disagreement would help the department to move forward with effective implementation of the reforms. Developing an approach to assess the effects of recent acquisition reforms is also critical so that DOD can monitor whether reforms are collectively having the effect of speeding up the acquisition process without unintended negative consequences on cost and performance of acquisition programs.

We also continue to believe that DOD should address our past recommendations to clarify and strengthen roles and responsibilities at the enterprise level for making portfolio management decisions to make sure that its investments are strategy-driven, affordable, and balance near- and long-term needs. In fact, these recommendations may take on more importance for DOD in light of the implementation of acquisition reforms that will further diffuse responsibility for initiating and overseeing acquisition programs.

Recommendations for Executive Action

We are making the following four recommendations to DOD:

The Secretary of Defense should direct the Under Secretary of Defense for Acquisition and Sustainment to identify in final guidance the types of business case elements potential middle-tier acquisition programs should develop and decision makers should consider at program initiation to assess the soundness of programs' business cases, including whether programs are well positioned to meet statutory objectives. (Recommendation 1)

The Secretary of Defense should direct the Under Secretary of Defense for Acquisition and Sustainment to determine and identify in final guidance for middle-tier acquisition programs the metrics that will be used to assess the performance of middle-tier acquisition programs across the military departments, including whether programs are meeting statutory objectives. (Recommendation 2)

The Secretary of Defense should ensure that a comprehensive framework that clarifies the roles and responsibilities of the Office of the Secretary of Defense and the military departments for acquisition oversight is communicated by senior leadership. This framework should be detailed enough to address areas of continued disagreement among key stakeholders and serve to inform the department's revisions of other acquisition policies such as DOD Instruction 5000.02. (Recommendation 3)

The Secretary of Defense should develop a plan for how the department will assess the effect of recent acquisition reforms, including identifying who will be responsible for the assessment and what data will be needed. (Recommendation 4)

Agency Comments and Our Evaluation

We provided a draft of this product to DOD for comment. In its comments, reproduced in appendix VII, DOD concurred with our four recommendations. DOD also provided technical comments with regard to improving the clarity of the discussion of certain reforms and providing additional context about military departments' oversight practices for middle-tier acquisition programs, among other issues. We incorporated DOD's technical comments as appropriate.
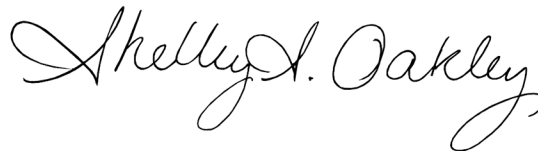
In its written comments, DOD described planned actions to address our recommendations. Specifically, in response to our first recommendation, to identify the types of business case elements that should be considered by decision-makers for middle-tier programs at program initiation, DOD stated that it expects to identify these business case elements in its final guidance on middle-tier programs, which it expects to complete in September 2019. In response to our second recommendation, to identify metrics that will be used to assess the performance of middle-tier programs, DOD stated that it plans to determine performance metrics in coordination with its release of its final guidance on middle-tier programs. DOD expects to release this guidance in late 2019. In response to our third recommendation, for senior leadership to clarify acquisition oversight roles and responsibilities, DOD stated that these roles and responsibilities will be finalized through the issuance of chartering directives and updated acquisition policy; issuance is expected by the end of 2019. Finally, in response to our fourth recommendation, to plan for assessing the effects of acquisition reforms, DOD stated that it has included a division in the Office of the Assistant Secretary of Defense for Acquisition to analyze and assess this and other high-level oversight and policy issues.

DOD's planned actions to address our first, second, and fourth recommendation, if implemented effectively, should address the intent of our recommendations. With regard to our third recommendation, however, we do not believe that the steps outlined in DOD's written comments are likely to fully address the disagreements about acquisition oversight roles and responsibilities that we identified in the report. We acknowledge in the report that DOD plans to issue chartering directives and re-issue DOD Instruction 5000.02 as part of its efforts to outline the roles and responsibilities of various parties for acquisition oversight, as DOD reiterated in its written comments. However, without a comprehensive framework to inform the revisions of acquisition policies, such as DOD Instruction 5000.02, DOD's ability to finalize these policies may be hindered by the disagreements between the Office of the Secretary of Defense and the military departments that we identified in our report. These disagreements are persistent and focused on

fundamental acquisition oversight issues. Simply issuing chartering directives and finalizing policy as planned may not be enough to ensure that areas of disagreement are resolved and that officials within the Office of the Secretary of Defense and the military departments have a shared understanding of an acquisition oversight framework for the entire Department that will serve as the basis for any policy. Furthermore, without senior leadership within DOD communicating this framework to the Office of the Secretary of Defense and the military departments in sufficient detail to address areas of disagreement among key stakeholders, disagreement will likely persist and the intended impacts of reforms could be stymied.

We are sending copies of this report to the appropriate congressional committees and the Acting Secretary of Defense. In addition, the 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) 512-4841 or oakleys@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 key contributions to this report are listed in appendix VIII.

Shelby S. Oakley
Director, Contracting and National Security Acquisitions

Appendix I: Objectives, Scope, and Methodology

This report addresses (1) the progress the Department of Defense (DOD) has made to implement selected oversight reforms for major defense acquisition programs; (2) how DOD has used middle-tier acquisition pathways and the extent to which DOD has developed guidance on middle-tier program oversight; and (3) challenges DOD faces related to reform implementation. The conference report for the National Defense Authorization Act for Fiscal Year 2018 and the Senate Armed Services Committee report accompanying a bill for the National Defense Authorization Act for Fiscal Year 2018 also contained provisions for GAO to review project, program, and portfolio management standards within DOD.[1] Appendix VI of this report includes our assessment of DOD's efforts to implement our previous portfolio management recommendations and identifies opportunities and challenges related to portfolio management that DOD may face as it continues to implement acquisition reforms.

We focused our review on five selected reforms from the National Defense Authorization Acts for Fiscal Years 2016 and 2017 that we determined substantially affected DOD's oversight of acquisition programs.[2] Our selections were informed by our analysis of the National Defense Authorization Acts for Fiscal Years 2016 and 2017 and our past work on factors affecting the oversight of major defense acquisition programs.[3] We also interviewed officials from the Office of the Secretary of Defense and the military departments to obtain their perspectives on the most significant reforms to acquisition oversight and considered those perspectives when we made our selections. For the purposes of our report, when we refer to a reform, we are referring to a specific change to DOD's acquisition oversight processes or roles and responsibilities. Two of the reforms we reviewed align with sections of the National Defense Authorization Act for Fiscal Year 2016, and the other three align with one or more sections from the National Defense Authorization Act for Fiscal Year 2017. Table 6 identifies the specific sections or subsections that we reviewed for each reform.

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[1]H.R. Conf. Rep. No. 115-404, at 940 (2017) and S. Rep. No. 115-125, at 206 (2017).

[2]Pub. L. No. 114-92 (2015) and Pub. L. No. 114-328 (2016).

[3]See, for example, GAO, *Limited Use of Knowledge-Based Practices Continues to Undercut DOD's Investments,* GAO-19-336SP (Washington, D.C.: May 7, 2019) and *Acquisition Reform: DOD Should Streamline Its Decision-Making Process for Weapon Systems to Reduce Inefficiencies,* GAO-15-192 (Washington, D.C.: Feb. 24, 2015).

Table 6: Reforms to Department of Defense Oversight of Acquisition Programs from the National Defense Authorization Acts for Fiscal Years 2016 and 2017 Selected by GAO for Review

Action Related to Reform	National Defense Authorization Act Section Number and Year	National Defense Authorization Act Section Title
Implementing middle-tier acquisition pathways	Section 804 of the National Defense Authorization Act for Fiscal Year 2016	Middle Tier of Acquisition for Rapid Prototyping and Rapid Fielding
Designating military departments to be the milestone decision authority	Section 825 of the National Defense Authorization Act for Fiscal Year 2016	Designation of Milestone Decision Authority
Establishing cost, fielding, and performance goals	Section 807(a)(1) of the National Defense Authorization Act for Fiscal Year 2017	Cost, Schedule, and Performance of Major Defense Acquisition Programs
	Section 925(b) of the National Defense Authorization Act for Fiscal Year 2017	Program Cost and Fielding Targets
Performing independent technical risk assessments	Section 807(a)(1) of the National Defense Authorization Act for Fiscal Year 2017	Cost, Schedule, and Performance of Major Defense Acquisition Programs
Reorganizing the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics	Section 901(a) and 901(b) of the National Defense Authorization Act for Fiscal Year 2017	Under Secretary of Defense for Research and Engineering Under Secretary of Defense for Acquisition and Sustainment

Source: GAO analysis of National Defense Authorization Acts for Fiscal Years 2016 and 2017. | GAO-19-439

We also reviewed related amendments to these sections from National Defense Authorization Acts for subsequent years to determine whether the National Defense Authorization Act sections we reviewed, or sections of the U.S. Code that were added by sections we reviewed, had been modified since being signed into law. When we identified amendments, we assessed DOD's progress in implementing the statute as amended. Appendix II provides additional details about the original legislative requirements and amendments, if any, to each of the reforms we selected.

To identify the progress DOD has made to implement selected oversight reforms for major defense acquisition programs, we analyzed three selected reforms that affect processes related to DOD's oversight of major defense acquisition programs:

- designating military departments to be the milestone decision authority;

- performing independent technical risk assessments; and

- establishing cost, fielding, and performance goals.

We also analyzed one reform that restructured acquisition oversight functions in the Office of the Secretary of Defense. We analyzed the

associated National Defense Authorization Act sections and reviewed
related acquisition policies and guidance from the Office of the Secretary
of Defense and the military departments (see app. II for a list of key
guidance we reviewed for each reform). For each reform, we analyzed
DOD and military department policies and guidance to determine steps
DOD and the military departments had taken to implement the reforms.
We also compared new or updated policies and guidance, when
available, with prior policies and guidance to determine how oversight
roles, responsibilities, and processes had changed for DOD's major
defense acquisition programs.

To obtain additional insight into how designation of milestone decision
authority had changed as a result of recent reforms, we requested and
analyzed data provided by DOD about the milestone decision authority
levels for the major defense acquisition program portfolio. To assess the
reliability of these data, we discussed the data and sources used to
compile them with DOD officials, reviewed the data for errors, reviewed
related documentation on programs with milestone decision authority at
the military department level, and compared the data when possible to
other sources, such as publicly available lists of major defense acquisition
programs. On the basis of these steps, we determined that the data we
used were sufficiently reliable to identify changes in the level of milestone
decision authority over time for major defense acquisition programs.

To assess changes resulting from the reorganization of Office of the
Under Secretary of Defense for Acquisition, Technology and Logistics, we
also reviewed updated organizational charts and staffing and vacancy
data for the successor offices (the Office of the Under Secretary of
Defense for Research and Engineering and the Office of the Under
Secretary of Defense for Acquisition and Sustainment) and compared
these to past organizational charts and staffing data for the Office of the
Under Secretary of Defense for Acquisition, Technology and Logistics. To
determine the current percentage of positions vacant in each office, we
compared actual data for filled positions as of March 2019 to the total
number of vacant positions as of the same point in time. The vacancy
numbers do not include vacant positions that are slotted for future
reduction or transfer. To assess the reliability of these data, we requested
and reviewed written responses from DOD officials on the reliability of the
data and sources used to compile it, reviewed the data for logical
inconsistencies, and compared the data when possible to other sources,
such as related data provided for other time frames. On the basis of these
steps, we determined that the data we used were sufficiently reliable to

identify the current staffing status for the two new Under Secretary
offices.

To determine how DOD has used middle-tier acquisition pathways, we
reviewed the relevant statute and guidance, and obtained information
from the military departments about the number and types of programs
using middle-tier acquisition pathways as of March 2019. We analyzed
the guidance from the Office of the Under Secretary of Defense for
Acquisition and Sustainment and the military departments to determine
how they were implementing the statute with regard to selection of
programs and program oversight. We also compared the guidance with
our past work on elements of business cases that should be completed at
program initiation to determine what elements were addressed by DOD
guidance.[4]

At each of the military departments, we judgmentally selected three
middle-tier programs to review in additional detail. We selected programs
to obtain a range of program costs (including programs that were above
the equivalent threshold cost for designation as a major defense
acquisition program if the program were not using a middle-tier
acquisition pathway, as well as those below that threshold) and types of
programs being executed under middle-tier acquisition pathways (such as
space, artillery, software, missile, and ground vehicle programs).

Programs we selected include:

- **Air Force:** Hypersonic Conventional Strike Weapon; Next Generation
  Overhead Persistent Infrared Space; Protected Tactical Enterprise
  Service;

- **Army:** Extended Range Cannon Artillery; Optionally Manned Fighting
  Vehicle; Rapid Opioid Countermeasures System; and

- **Navy:** STANDARD Missile-2 Block IIIC; STANDARD Missile-6 Block
  IB Phase IA Rocket Motor; STANDARD Missile-6 Block IB Phase IB
  All Up Round.

For these programs, we collected and analyzed additional information
such as acquisition decision memorandums, acquisition strategies,
program cost and schedule estimates, and risk assessments. We also
interviewed or received detailed written responses from program officials

[4]GAO-15-192.

that addressed issues such as how decisions were made to execute programs under middle-tier acquisition pathways and how oversight for programs was being conducted.

Further, we reviewed interim guidance from the Office of the Under Secretary of Defense for Acquisition and Sustainment and the military departments to determine how DOD planned to measure middle-tier program performance. We compared DOD and the military departments' guidance on developing metrics and collecting data to assess middle-tier program performance to relevant internal controls related to consistent measurement of program performance.[5]

To assess the challenges DOD faces with regard to reform implementation, we reviewed policy and guidance issued by top DOD leadership that outlined roles and responsibilities for the Office of the Secretary of Defense and the military departments with regard to acquisition oversight and compared them to leading practices for leadership involvement in agency transformations that we had identified in prior work.[6] We also collected and analyzed information about DOD's actions taken to implement prior recommendations we have made to improve portfolio management at DOD and analyzed the acquisition oversight reforms we included in this review to identify opportunities and challenges related to portfolio management that DOD may face as it continues to implement acquisition reforms. Lastly, we reviewed DOD's plans and ongoing efforts to develop performance measures and collect data to assess the effects of acquisition reforms and compared these efforts with success factors for reform implementation identified in our past work.[7]

For all objectives, we also conducted interviews with officials from the Office of the Secretary of Defense, the Joint Staff, and the military departments to obtain additional insight into implementation status, implementation challenges, and future plans, including:

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[5]GAO, *Standards for Internal Control in the Federal Government,* GAO-14-704G (Washington, D.C.: Sept. 10, 2014).

[6]GAO, *Results-Oriented Cultures: Implementation Steps to Assist Mergers and Organizational Transformations,* GAO-03-669 (Washington, D.C.: July 2, 2003).

[7]GAO, *Government Reorganization: Key Questions to Assess Agency Reform Efforts,* GAO-18-427 (Washington, D.C.: June 13, 2018).

- **Office of the Secretary of Defense:** The Office of the Under
  Secretary of Defense for Research and Engineering, the Office of the
  Under Secretary of Defense for Acquisition and Sustainment, the
  Office of the Under Secretary of Defense (Comptroller), the Office of
  the Chief Management Officer, the Office of the Director of
  Operational Test and Evaluation, the Office of the Director of Cost
  Assessment and Program Evaluation, and the Office of the General
  Counsel.

- **Joint Staff:** Force Structure, Resource and Assessment Directorate,
  J-8.

- **Military departments:** For each of the three military departments (Air
  Force, Army, and Navy) we interviewed acquisition officials from the
  Service Acquisition Executive's office, requirements officials
  supporting the Chief of Staff of the respective armed force, and
  officials from the military department cost agencies. At the Air Force
  we also interviewed officials from the Office of the General Counsel.

We conducted this performance audit from March 2018 to June 2019 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 that
the evidence obtained provides a reasonable basis for our findings and
conclusions based on our audit objectives.

Appendix II: Summary of Original Legislation and Amendments to Acquisition Reforms Reviewed by GAO

Table 7: Summary of Legislation and Amendments to Section 804 of the National Defense Authorization Act for Fiscal Year 2016: Middle Tier of Acquisition for Rapid Prototyping and Rapid Fielding

Summary of Original Legislative Provisions[a]

- Requires the Department of Defense to establish guidance (Guidance) for a "middle tier" of acquisition programs that are intended to be completed in a period of 2 to 5 years.
- Requires Guidance to cover two acquisition pathways: (1) rapid prototyping – to provide for the use of innovative technologies to rapidly develop fieldable prototypes to demonstrate new capabilities and meet emerging military needs with the objective to field a prototype that can be demonstrated in an operational environment and provide for residual capability within 5 years of the development of an approved requirement; and (2) rapid fielding – to provide for the use of proven technologies to field production quantities of new or upgraded systems with minimal development required with the objective to begin production within 6 months and complete fielding within 5 years of development of an approved requirement.
- Requires Guidance to provide for streamlined and coordinated requirements, budget, and acquisition process that results in the development of an approved program requirement in a period of not more than 6 months from the time the process is initiated.
- Requires the Secretary of Defense to establish a Rapid Prototyping Fund (Fund) to provide funds, in addition to other funds that may be available, for programs under the rapid prototyping pathway established pursuant to this section.

Summary of Related Amendments from Subsequent National Defense Authorization Acts[b]

- PL 114–328 § 864(b) – Amended the Fund provision to provide that in addition to the amounts provided for in the original statute, the Fund consists of any other amounts appropriated to, credited to, or transferred to the Fund.
- PL 114–328 § 897 – Amended the Fund provision to provide that military departments may establish a military department-specific fund for acquisition programs under rapid fielding and prototyping pathways established under the original statute, consisting of amounts appropriated or credited to the military-specific fund .
- PL 114–328 § 1081(c)(2) – Amended the Fund provision concerning notice to congressional defense committees of Fund amounts transferred to a military department for a rapid prototyping acquisition program to require notice within 5 business days after such a transfer.
- PL 115-91 § 866 – Struck the requirement that Guidance on rapid prototyping include a process for cost sharing with military departments on rapid prototyping projects.

Key Policies and Guidance

- Department of Defense, Under Secretary of Defense (Acquisition and Sustainment): Middle Tier of Acquisition (Rapid Prototyping/Rapid Fielding) Interim Authority and Guidance (Apr. 16, 2018).
- Department of Defense, Under Secretary of Defense (Acquisition and Sustainment): Middle Tier of Acquisition (Rapid Prototyping/Rapid Fielding) Interim Governance (Oct. 9, 2018).
- Department of Defense, Under Secretary of Defense (Acquisition and Sustainment): Middle Tier of Acquisition (Rapid Prototyping/Rapid Fielding) Interim Governance 2 (Mar 20, 2019).
- Department of Defense, Director, Cost Assessment and Program Evaluation: Life-Cycle Cost Estimating Policy for Programs Carried Out Using the Rapid Fielding Pathway Under Section 804 of the National Defense Acquisition Act (NDAA) for Fiscal Year (FY) 2016 (Public Law 114-92 (Apr. 05, 2019).
- Department of the Air Force, Office of the Assistant Secretary of the Air Force (Acquisition, Technology and Logistics), Memorandum No. AFGM2018-63-146-01: Air Force Guidance Memorandum for Rapid Acquisition Activities (June 13, 2018).
- Department of the Army: Office of the Assistant Secretary of the Army (Acquisition, Logistics and Technology) Middle-Tier Acquisition Policy (Sept. 25, 2018).
- Department of the Navy, Assistant Secretary (Research, Development and Acquisition): Middle Tier Acquisition and Acquisition Agility Guidance (Apr. 24, 2018).

Source: GAO analysis of National Defense Authorization Acts for Fiscal Years 2016, 2017, 2018, and 2019 and Department of Defense documents. | GAO-19-439

[a]National Defense Authorization Act for Fiscal Year 2016, Pub. L. No. 114-92 § 804 (2015).

[b]National Defense Authorization Act for Fiscal Year 2017, Pub. L. No. 114-328 §§ 864(b), 897, 1081(c)(2) (2016); National Defense Authorization Act for Fiscal Year 2018, Pub. L. No. 115-91 § 866 (2017).

Table 8: Summary of Legislation and Amendments to Section 825 of the National Defense Authorization Act for Fiscal Year 2016: Designation of Milestone Decision Authority

Summary of Original Legislative Provisions[a]

- Requires that the service acquisition executive of the military department managing the program be the milestone decision authority for major defense acquisition programs reaching milestone A after Oct. 1, 2016, unless the Secretary of Defense designates an alternate milestone decision authority under certain circumstances.

- The Secretary of Defense may designate an alternate milestone decision authority, for a major defense acquisition program reaching Milestone A after Oct. 1, 2016, for a program that the Secretary determines is addressing a joint requirement, is best managed by a defense agency, or an alternate official will best provide for the program to achieve desired cost, schedule, and performance outcomes. Additional circumstances under which the Secretary may designate an alternate milestone decision authority are when the program has experienced a Nunn-McCurdy breach; is critical to a major interagency requirement or technology development effort; or has significant international partner involvement.[b]

- If an alternate milestone decision authority is designated for a major defense acquisition program, the Secretary of the military department concerned may request that Secretary of Defense revert the milestone decision authority position back to the service acquisition executive. Requires the Secretary of Defense to make a decision on the reversion request within 180 days after receipt and notify congress if the request is denied. No reversion is authorized if the program has experienced a Nunn-McCurdy breach, except in exceptional circumstances.

- Requires the Secretary of the military department concerned and the Chief of the armed force concerned to certify in each selected acquisition report for major defense acquisition programs required under 10 U.S.C. § 2432 that the program requirements are stable and funding is adequate to meet cost, schedule, and performance objectives for the program and identify and report to congressional defense committees on any increased risk to the program since the last report.

- Requires the Secretary of Defense to review the acquisition oversight process for major defense acquisition programs and limit outside requirements for documentation to an absolute minimum for programs where the service acquisition executive of the military department that is managing the program is the milestone decision authority and ensure that any policies, procedures, and activities related to oversight efforts conducted outside of the military departments with regard to major defense acquisition programs be implemented in a manner that does not unnecessarily increase program costs or impede program schedules.

Summary of Related Amendments from Subsequent National Defense Authorization Acts[c]

- PL 114–328 § 807(b) – Effective Jan. 1, 2017, modified the authority of the Secretary of Defense to designate an alternative milestone decision authority for a program with respect to which the Secretary determines that the program is addressing a joint requirement to apply only for a major defense acquisition program that reaches milestone A after Oct. 1, 2016, and before Oct. 1, 2019.

Key Policies and Guidance

- Department of Defense, Deputy Chief Management Officer: Guidance on Department of Defense Implementation of Section 2430(d) of Title 10, United States Code (Dec. 18, 2017).

Source: GAO analysis of National Defense Authorization Acts for Fiscal Years 2016, 2017, 2018, and 2019 and Department of Defense documents. | GAO-19-439

[a]National Defense Authorization Act for Fiscal Year 2016, Pub. L. No. 114-92 § 825 (2015), codified as 10 U.S.C. § 2430.

[b]Section 2433 of title 10 of the U.S. Code, commonly referred to as Nunn-McCurdy, requires DOD to notify Congress whenever a major defense acquisition program's unit cost experiences cost growth that exceeds certain thresholds. Significant breaches occur when the program acquisition unit cost or procurement unit cost increases by at least 15 percent over the current baseline estimate or at least 30 percent over the original estimate. For critical breaches, when these unit costs increase at least 25 percent over the current baseline estimate or at least 50 percent over the original, DOD is required to take additional steps, including conducting an in-depth review of the program. Programs with critical breaches must be terminated unless the Secretary of Defense certifies to certain facts related to the program and takes other actions, including restructuring the program. 10 U.S.C. § 2433a.

[c]National Defense Authorization Act for Fiscal Year 2017, Pub. L. No. 114-328 § 807(b) (2016), codified as 10 U.S.C. § 2430.

Table 9: Summary of Legislation and Amendments to Section 807(a) and Section 925(b) of the National Defense Authorization Act for Fiscal Year 2017: Establishing Cost, Fielding, and Performance Goals

Summary of Original Legislative Provisions[a]

Section 807(a)

- For major defense acquisition programs that reach milestone A after Oct. 1, 2017, requires the Secretary of Defense to establish goals for
  - procurement unit cost and sustainment cost (referred to as the "program cost targets");
  - the date for initial operational capability (referred to as the "fielding target"); and
  - technology maturation, prototyping, and a modular open system approach to evolve system capabilities and improve interoperability.
- The goals must be established before funds are obligated for technology development, systems development, or production to ensure that the milestone decision authority approves a program that will
  - be affordable;
  - incorporate program planning that anticipates the evolution of capabilities to meet changing threats, technology insertion, and interoperability; and
  - be fielded when needed.
- Allows delegation of the above Secretary of Defense responsibilities only to the Deputy Secretary of Defense.

Section 925(b)

- Requires the Secretary of Defense to establish a process to develop program cost and fielding targets, pursuant to 10 U.S.C. § 2448a that
  - is co-chaired by the Deputy Secretary of Defense and Vice Chairman of the Joint Chiefs of Staff;
  - is supported by Joint Staff, the Office of Cost Assessment and Program Evaluation, and other Department of Defense organizations determined appropriate by the Secretary; and
  - ensures that appropriate trade-offs are made among life-cycle cost, schedule, and performance objectives and procurement quantity objectives.

Summary of Related Amendments from Subsequent National Defense Authorization Acts[b]

Section 807(a)

- PL 115–232 § 831(a) – Revised the responsibility for the individual responsible for establishing program cost and fielding targets for major defense acquisition programs by assigning the duty to the designated milestone decision authority rather than the Secretary of Defense, who was previously responsible.

Section 925(b)

- PL 115–232 § 831(b)(4) –Amended the process required to establish program cost and fielding targets to require that the process be co-chaired by the designated milestone decision authority for the major defense acquisition program and the Vice Chief of Staff of the armed force concerned or, in the case of a program for which an alternate milestone decision authority is designated under 10 U.S.C. § 2430(d)(2), the Vice Chairman of the Joint Chiefs of Staff, rather than co-chaired by the Deputy Secretary of Defense and the Vice Chairman of the Joint Chiefs of Staff, as previously required.

Key Policies and Guidance

- Department of Defense, Deputy Secretary of Defense: Procedures for the Establishment of Program Cost, Fielding, and Performance Goals for Major Defense Acquisition Programs (Nov. 16, 2018). (Unclassified//For Official Use Only)

Source: GAO analysis of National Defense Authorization Acts for Fiscal Years 2017, 2018, and 2019 and Department of Defense documents. | GAO-19-439

[a]National Defense Authorization Act for Fiscal Year 2017, Pub. L. No. 114-328 § 807(a) (2016), adding new 10 U.S.C. § 2448a, and § 925(b) (2016), as codified in 10 U.S. C. §181.

[b]John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. No. 115-232 § 831 (2018).

Table 10: Summary of Legislation and Amendments to Section 807(a) of the National Defense Authorization Act for Fiscal Year 2017: Independent Technical Risk Assessments

Summary of Original Legislative Provisions[a]

• For major defense acquisition programs that reach milestone A after Oct. 1, 2017, requires the Secretary of Defense to ensure that
  • an independent technical risk assessment that identifies critical technologies and manufacturing processes that need to be matured is conducted before any decision to grant milestone A approval for the program pursuant to 10 U.S.C. § 2366a; and
  • an independent technical risk assessment that includes the identification of any critical technologies or manufacturing processes that have not been successfully demonstrated in a relevant environment is conducted before any decision to grant milestone B approval for the program pursuant to 10 U.S.C. § 2366b, or any decision to enter into low rate initial production, or full rate production, or at any other time considered appropriate by the Secretary of Defense.
• Requires the Secretary of Defense to issue guidance and a framework for categorizing the degree of technical and manufacturing risk in a major defense acquisition program.

Summary of Related Amendments from Subsequent National Defense Authorization Acts
None

Key Policies and Guidance
• Department of Defense, Under Secretary of Defense (Research & Engineering): Framework for Risk Assessments Categorization for Use during Independent Technical Risk Assessments (June 18, 2018) and accompanying attachment, DoD Independent Technical Risk Assessment Framework for Risk Categorization (June 2018). • Department of Defense, Deputy Secretary of Defense: Policy Memorandum for Independent Technical Risk Assessments for Major Defense Acquisition Programs (Dec. 3, 2018).

Source: GAO analysis of National Defense Authorization Acts for Fiscal Years 2017, 2018, and 2019 and Department of Defense documents. | GAO-19-439

[a]National Defense Authorization Act for Fiscal Year 2017, Pub. L. No. 114-328 § 807(a) (2016), adding new 10 U.S.C. § 2448b.

Table 11: Summary of Legislation and Amendments to Section 901(a) and 901(b) of the National Defense Authorization Act for Fiscal Year 2017: Under Secretary of Defense for Research and Engineering and Under Secretary of Defense for Acquisition and Sustainment

Summary of Original Legislative Provisions[a]

Section 901(a)

- Effective February 1, 2018, directed Department of Defense reorganization by providing for the restructuring of the Under Secretary of Defense for Acquisition, Technology, and Logistics by dividing the position into two positions, the first of which is the Under Secretary of Defense for Research and Engineering.
- Requires the Under Secretary of Defense for Research and Engineering to have extensive technology, science, or engineering background and experience managing complex or advanced technological programs.
- Assigns the Under Secretary of Defense for Research and Engineering duties and powers that include serving as the chief technology officer of the Department of Defense, establishing policies on and supervising all defense research and engineering, technology development, technology transition, prototyping, experimentation, and developmental testing activities and programs.

Section 901(b)

- Effective February 1, 2018, directed Department of Defense reorganization by providing for the restructuring of Under Secretary of Defense for Acquisition, Technology and Logistics by dividing the position into two positions, the second of which is the Under Secretary of Defense for Acquisition and Sustainment.
- Requires the Under Secretary of Defense for Acquisition and Sustainment to have an extensive system development, engineering, production or management background and experience with managing complex programs.
- Assigns the Under Secretary of Defense for Acquisition and Sustainment duties and powers that include establishing policies on, and supervising, all elements of the Department of Defense relating to acquisition and sustainment; establishing policies for access to, and maintenance of, the defense industrial base and materials critical to national security and policies on contract administration; serving as senior procurement executive and Defense Acquisition Executive; overseeing the modernization of nuclear forces and the development of capabilities to counter weapons of mass destruction; and exercising supervisory authority over service acquisition programs for which the service acquisition executive is the milestone decision authority.

Summary of Related Amendments from Subsequent National Defense Authorization Acts[b]

Section 901(a)

- PL 115-91 § 901 – Eliminated the provision that allowed the incumbent Under Secretary Of Defense for Acquisition, Technology and Logistics, as of February 1, 2018, to continue serving as the Under Secretary of Defense for Research and Engineering without further appointment under 10 U.S.C. § 133a.

Section 901(b)

- PL 115-91 § 902 – Amended the authority that the Under Secretary exercises over service acquisition programs for which the service acquisition executive is the milestone decision authority from supervisory authority to advisory authority.

Key Policies and Guidance

- Department of Defense, Deputy Secretary of Defense: Implementation Guidance for the Establishment of the Office of the Under Secretary of Defense for Research and Engineering and the Office of the Under Secretary of Defense for Acquisition and Sustainment (Jan. 31, 2018).
- Department of Defense, Deputy Secretary of Defense: Establishment of the Office of the Under Secretary of Defense for Research Engineering and the Office of the Under Secretary of Defense for Acquisition and Sustainment (Jul. 13, 2018). (Unclassified//For Official Use Only)

Source: GAO analysis of National Defense Authorization Acts for Fiscal Years 2017, 2018, and 2019 and Department of Defense documents. | GAO-19-439

[a]National Defense Authorization Act for Fiscal Year 2017, Pub. L. No. 114-328 § 901(a) and (b) (2016), codified as 10 U.S.C. §§ 133a and 133b.

[b]National Defense Authorization Act for Fiscal Year 2018, Pub. L. No. 115-91 (2017) §§ 901, 902 and 910, codified as 10 U.S.C. § § 133a and 1333b.

Appendix III: Milestone Decision Authority for Major Defense Acquisition Programs as of March 2019

Table 12: Milestone Decision Authority for Major Defense Acquisition Programs as of March 2019

Programs with milestone decision authority at the Air Force level (26)
Advanced Extremely High Frequency Satellite
Advanced Pilot Training
AIM-120 Advanced Medium Range Air-to-Air Missile
Air Force Intercontinental Ballistic Missile Fuze Modernization
Airborne Warning and Control System Block 40/45 Upgrade
B61 Mod 12 Life Extension Program Tailkit Assembly
C-130J Hercules Transport Aircraft
Combat Rescue Helicopter
Enhanced Polar System
F-15 Eagle Passive Active Warning Survivability System
F-22 Increment 3.2B Modernization
Family of Advanced Beyond Line-of-Sight Terminals
Global Positioning System III
Global Positioning System III Follow-On Production
HC/MC-130 Recapitalization Aircraft
Joint Air-to-Surface Standoff Missile
Joint Direct Attack Munition
KC-46A Tanker Modernization
Massive Ordnance Penetrator
Military Global Positioning System User Equipment Increment 1
MQ- 9 Reaper Unmanned Aircraft System
Small Diameter Bomb Increment II
Space Based Infrared System High
Space Fence Ground-Based Radar System Increment 1
Utility Helicopter Replacement Program
Wideband Global SATCOM
Programs with milestone decision authority at the Army level (18)
AH-64E Apache New Build
AH-64E Apache Remanufacture
Airborne & Maritime/Fixed Station Joint Tactical Radio System
AN/TPQ-53 Counterfire Target Acquisition Radar
Armored Multi-Purpose Vehicle
CH-47F Modernized Cargo Helicopter
Common Infrared Countermeasure

Programs with milestone decision authority at the Army level (18)
Guided Multiple Launch Rocket System/Guided Multiple Launch Rocket System Alternative Warhead
Handheld, Manpack, and Small Form Fit Radios
Joint Air-to-Ground Missile
Joint Light Tactical Vehicle
M88A2 Heavy Equipment Recovery Combat Utility Lift Evacuation System
MQ-1C Gray Eagle Unmanned Aircraft System
Paladin Integrated Management
Patriot Advanced Capability-3 Missile Segment Enhancement
RQ-7B Shadow Tactical Unmanned Aircraft System
UH-60M Black Hawk Helicopter
Warfighter Information Network-Tactical Increment 2
Programs with milestone decision authority at the Navy level (36)
Advanced Arresting Gear
AGM-88E Advanced Anti-Radiation Guided Missile
AIM-9X Block II Sidewinder
Air and Missile Defense Radar
Amphibious Combat Vehicle Phase 1 Increment 1
CH-53K King Stallion
Cooperative Engagement Capability
CVN 78 Gerald R. Ford Class Nuclear Aircraft Carrier
DDG 1000 Zumwalt Class Destroyer
DDG 51 Arleigh Burke Class Guided Missile Destroyer
E-2D Advanced Hawkeye Aircraft
Expeditionary Sea Base
Ground/Air Task Oriented Radar
H-1 Upgrades (4BW/4BN)
Infrared Search and Track
Integrated Defensive Electronic Countermeasures
Joint Precision Approach and Landing System
KC-130J Transport Aircraft
LHA 6 America Class Amphibious Assault Ship
Littoral Combat Ship
Littoral Combat Ship Mission Modules
LPD 17 San Antonio Class Amphibious Transport Dock
MQ-25 Stingray
MQ-4C Triton Unmanned Aircraft System

Programs with milestone decision authority at the Navy level (36)
MQ-8 Fire Scout Unmanned Aircraft System
Multifunctional Information Distribution System
Next Generation Jammer Mid-Band
Offensive Anti-Surface Warfare Increment 1 (Long Range Anti-Ship Missile)
P-8A Poseidon Multi-Mission Maritime Aircraft
Ship to Shore Connector Amphibious Craft
SSN 774 Virginia Class Submarine
Standard Missile-6
T-AO 205 John Lewis Class Fleet Replenishment Oiler
Trident II (D-5) Sea-Launched Ballistic Missile UGM 133A
V-22 Osprey Joint Services Advanced Vertical Lift Aircraft
VH-92A Presidential Helicopter
Programs with milestone decision authority at the Office of the Secretary of Defense level (9)
B-2 Defensive Management System - Modernization
Ballistic Missile Defense System
Chemical Demilitarization-Assembled Chemical Weapons Alternatives
F-35 Lightning II Joint Strike Fighter Program
Integrated Air and Missile Defense
National Security Space Launch
Next Generation Operational Control System
SSBN 826 Columbia Class Submarine
VC-25B Presidential Aircraft Recapitalization

Source: GAO analysis of data from the Department of Defense's Defense Acquisition Visibility Environment system. | GAO-19-439

Appendix IV: Organizational Charts from Before and After the Reorganization of the Office of the Secretary of Defense

Figure 5: Organizational Chart for the Former Office of the Under Secretary of Defense for Acquisition, Technology and Logistics
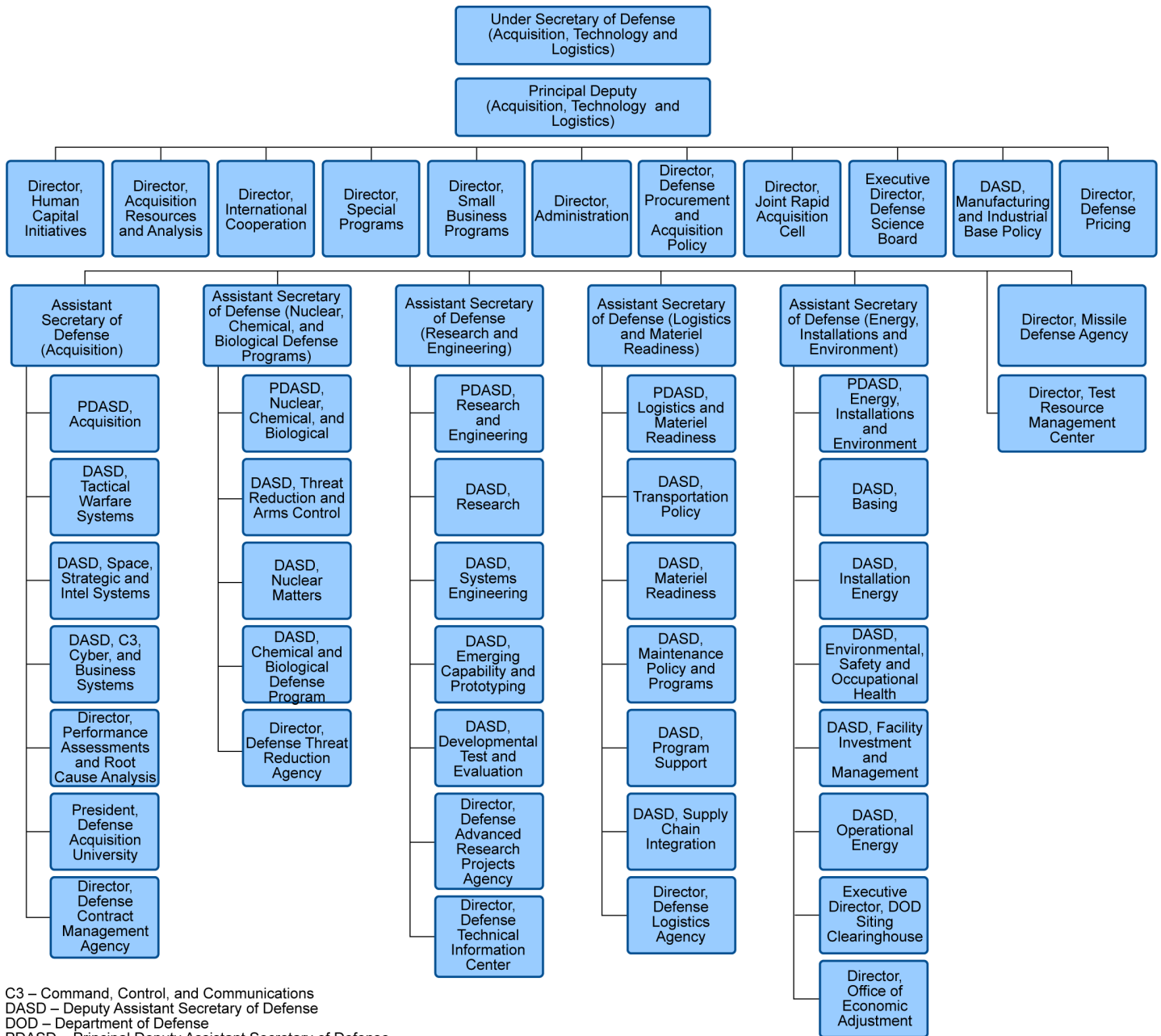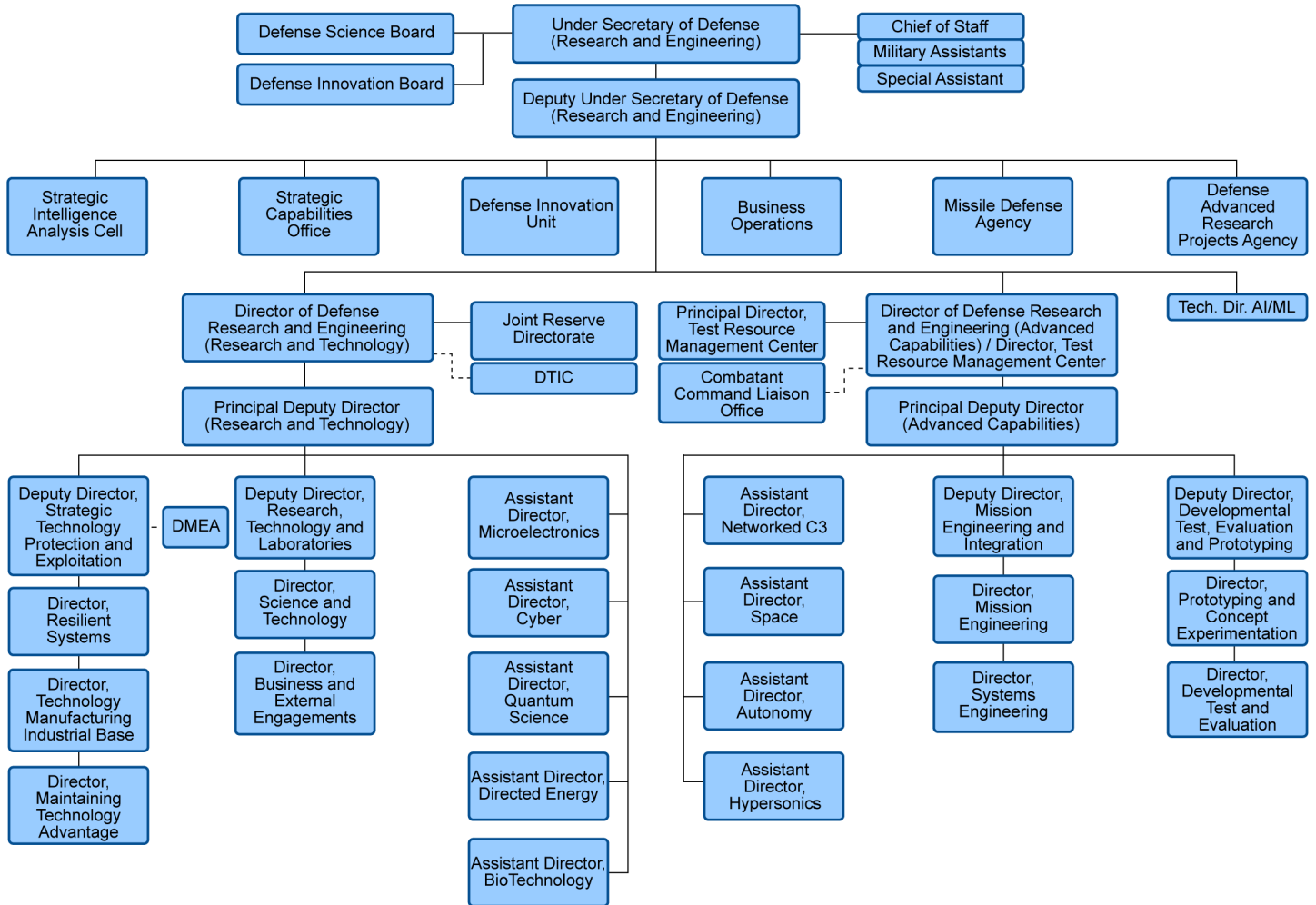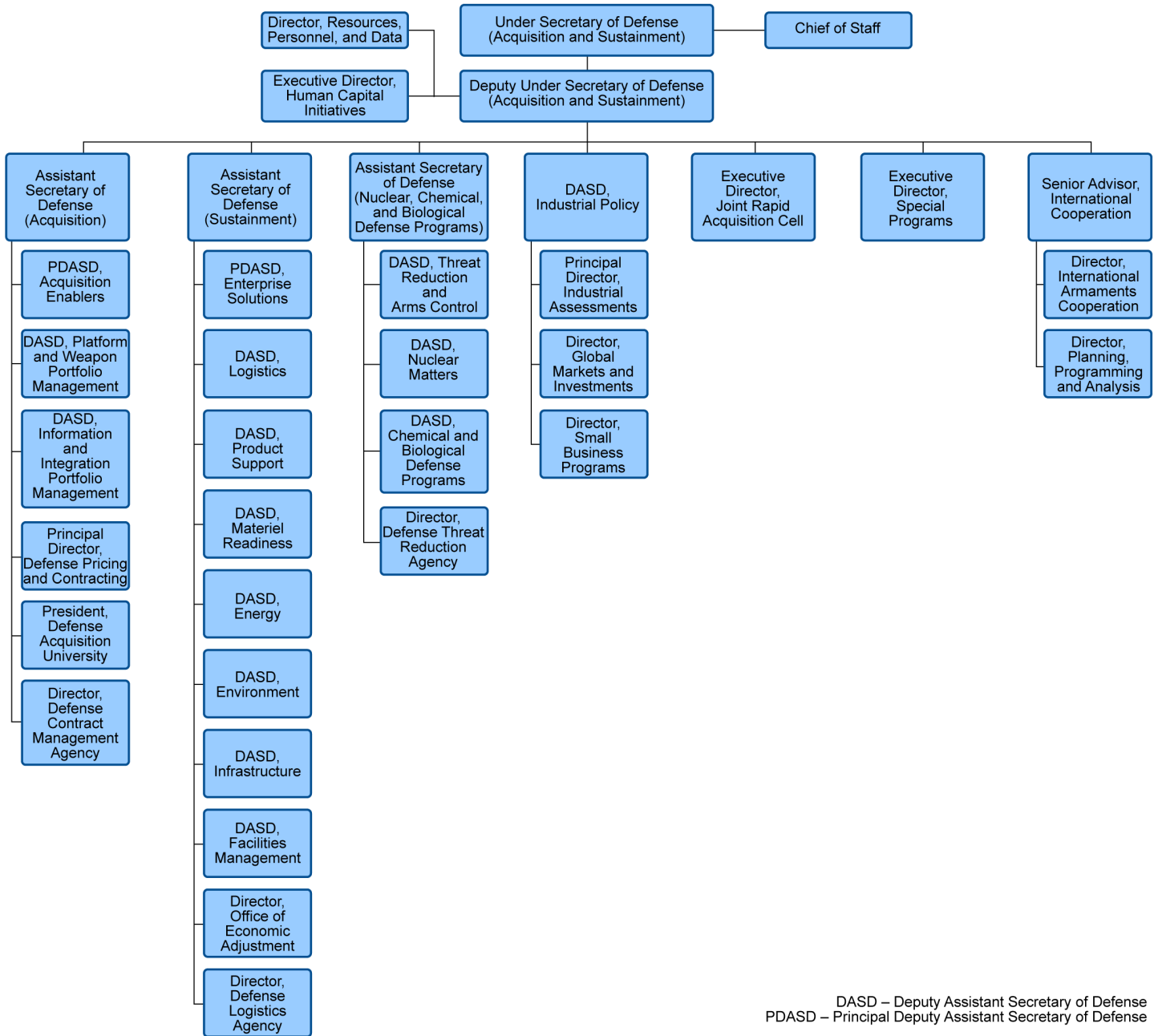

C3 – Command, Control, and Communications
DASD – Deputy Assistant Secretary of Defense
DOD – Department of Defense
PDASD – Principal Deputy Assistant Secretary of Defense

Source: Department of Defense documents. | GAO-19-439

**Appendix IV: Organizational Charts from
Before and After the Reorganization of the
Office of the Secretary of Defense**

Figure 6: Organizational Chart for the Office of the Under Secretary of Defense for Research and Engineering

------ Denotes reporting relationship for field activities

C3 – Command, Control, and Communications
DMEA – Defense Microelectronics Activity
DTIC – Defense Technical Information Center
Tech. Dir. AI/ML – Technical Director, Artificial Intelligence/Machine Learning

Source: Department of Defense documents. | GAO-19-439

Appendix IV: Organizational Charts from
Before and After the Reorganization of the
Office of the Secretary of Defense

Figure 7: Organizational Chart for the Office of the Under Secretary of Defense for Acquisition and Sustainment

DASD – Deputy Assistant Secretary of Defense
PDASD – Principal Deputy Assistant Secretary of Defense

Source: Department of Defense documents. | GAO-19-439

Table 13: Air Force Programs Using Middle-Tier Acquisition Pathways as of March 2019

Program Name	Program Description	Type of Effort
Programs With Planned Costs Above the Acquisition Category I Threshold (12)		
Air-Launched Rapid Response Weapon	The program will provide a survivable hypersonic maneuvering boost-glide system designed to engage and kill soft, fixed, time-critical targets.	Prototyping
B-52 Commercial Engine Replacement Program	The program will re-engine the B-52 fleet with new, commercial engines in response to an Air Force Global Strike Command sustainment requirement.	Prototyping
Evolved Strategic Satellite Communications	The program will provide strategic, resilient, and global satellite communications capability, which enhances the cyber and resiliency features across system segments.	Prototyping
F-22 Capability Pipeline	The program will prototype an upgrade pipeline to rapidly develop and deploy capabilities to the F-22.	Prototyping
Family of Advanced Beyond Line-of-Sight Terminals Force Element Terminal	The program will provide secure, nuclear-survivable terminals capable of communicating with military satellites and nuclear command, control, and communications data transport services for airborne platforms.	Prototyping
Hypersonic Conventional Strike Weapon	The program is developing an air-launched conventional intermediate range weapon for time-critical targets.	Prototyping
Military Global Positioning System User Equipment Increment 2 Miniature Interface Serial Receiver Application Specific Integrated Circuit	The program will enable modernized global positioning system receivers for weapon system applications by satisfying requirements for low-power users not met by current technology.	Prototyping
Next Generation Overhead Persistent Infrared Space	The program will expand on existing Space Based Infrared System capabilities to augment missile defense efforts, battlespace awareness, and intelligence gathering.	Prototyping
Protected Tactical Enterprise Service	This program is the foundational ground element to enable the use of the Protected Tactical Waveform over Wideband Global Satellite Communications which will provide adaptive, anti-jam communications to tactical users.	
Protected Tactical Satellite Communications	The program will provide worldwide, beyond line of sight, anti-jam communications to tactical warfighters.	Prototyping
Unified Platform	The program will develop a unifying platform connecting disparate cyberspace capabilities.	Prototyping
Integrated Strategic Planning and Analysis System Increment 5	The program will field capabilities that build upon Increment 4 and improve the resiliency of the Mission Planning and Analysis System to support strategic- and operational-level planning and leadership decision-making.	Fielding
Programs With Planned Costs Below the Acquisition Category I Threshold (12)		
Air Operations Center Modifications	The program will provide continuously delivered software upgrades to Air Operations Center command and control systems.	Prototyping
Airborne High Frequency Radio Modernization	The program will deliver alternate means of communications when satellite communications are not available due to natural or man-made disruptions.	Prototyping
Airborne Warning and Control System Communications Network Upgrade	The program will address pending issues of the currently fielded Joint Tactical Information Distribution System Class II terminal on the E-3 aircraft.	Prototyping

Programs With Planned Costs Below the Acquisition Category I Threshold (12)		
Airborne Warning and Control System Electronic Protection	The program will replace legacy radar technology with modern existing hardware to improve radar processing with inclusion of electronic protection techniques.	Prototyping
Airborne Warning and Control System Mode 5 Acceleration	The program is developing an interim E-3 aircraft modification to install mode 5 capability on the aircraft, to help bridge a capability gap between 2020 and 2027.	Prototyping
F-16 Electronic Warfare	The program will provide an electronic warfare system to address current threats and provide growth capability into the future.	Prototyping
Military Global Positioning System User Equipment Increment 2 Modernized Handheld Receiver	The program will provide a modernized handheld global positioning system receiver to support more stringent handheld requirements.	Prototyping
Nuclear Planning and Execution System Recapitalization	The program is a re-architecting, re-engineering, and development of the existing nuclear planning and execution software.	Prototyping
Resilient-Embedded Global Positioning System/Inertial Navigation System	The program will provide an open-systems architecture approach to facilitate seeking new vendors and allow rapid upgrades to position-navigation-timing capability.	Prototyping
Combat Search and Rescue—Pedro King	The program will provide a suite of combat search and rescue mission planning systems to enable aircrew to organize and prepare flight data and electronically transfer the data to two helicopters (the "Pedro" and the "King").	Fielding
Mobility Air Force Modernization Agile Global Mobility System	The program will provide a suite of mission planning systems to enable aircrew to organize and prepare flight data and electronically transfer this mission data to the aircraft in support of airlift, tanker, and air drop missions.	Fielding
Open Skies Aircraft Recapitalization	The program will procure and integrate mission systems and field two new modified Open Skies aircraft in support of Open Skies Treaty compliance monitoring.	Fielding

Source: GAO analysis of Department of Defense data. | GAO-19-439

Note: Acquisition category I programs have a dollar value for all increments estimated to require an eventual total expenditure for research, development, test, and evaluation of more than $480 million, or for procurement of more than $2.79 billion, in fiscal year 2014 constant dollars or have been designated as a special interest by the milestone decision authority.

Table 14: Army Programs Using Middle-Tier Acquisition Pathways as of March 2019

Program Name	Program Description	Type of Effort
Programs With Planned Costs Above the Acquisition Category I Threshold (5)		
Extended Range Cannon Artillery	The program will improve artillery lethality by addressing and closing capability gaps to ensure overmatch with near-peer adversaries. This effort is one aspect of a multilateral approach that couples new cannon and projectile technologies with previously developed artillery systems.	Prototyping
Integrated Visual Augmentation System	The program will provide a single platform for soldiers and marines to fight, rehearse, and train, providing increased lethality, mobility, and situational awareness necessary to achieve overmatch against current and future adversaries.	Prototyping
Lower Tier Air and Missile Defense Sensor	The program will use multi-function radar to address identified capability gaps and is the lower tier sensor component of the Army's Integrated Air and Missile Defense program.	Prototyping
Mobile Protected Firepower	The program will provide Infantry Brigade Combat Teams protected, long range, precision direct fire capability to neutralize enemy‑prepared positions and bunkers and defeat heavy machine guns and armored vehicle threats.	Prototyping
Optionally Manned Fighting Vehicle	The program is a purpose-built manned platform that maneuvers soldiers to a point of positional advantage to engage in close combat. It is designed to operate with or without a crew and soldiers under armor based on the commander's decision.	Prototyping
Programs With Planned Costs Below the Acquisition Category I Threshold (3)		
Next Generation Squad Weapon	The program will provide an increase in lethality, effective range, and system accuracy against close and extended range targets in all terrains and conditions.	Prototyping
Rapid Opioid Countermeasures System	The program will support the discovery, characterization, development, and fielding of autoinjector-delivered naloxone therapeutic against operational exposure to opioids.	Prototyping
Standoff Activated Volcano Obstacle	The program will develop an anti-vehicle capability to address the Army's directed close tactical obstacle capability gap.	Prototyping

Source: GAO analysis of Department of Defense data. | GAO-19-439

Note: Acquisition category I programs have a dollar value for all increments estimated to require an eventual total expenditure for research, development, test, and evaluation of more than $480 million, or for procurement of more than $2.79 billion, in fiscal year 2014 constant dollars or have been designated as a special interest by the milestone decision authority.

Table 15: Navy Programs Using Middle-Tier Acquisition Pathways as of March 2019

Program Name	Program Description	Type of Effort
Programs With Planned Costs Below the Acquisition Category I Threshold (3)		
STANDARD Missile-2 Block IIIC	The program will develop an upgrade to the existing Block III missile, producing active, medium-range missiles.	Prototyping
STANDARD Missile-6 Block IB Phase IA Rocket Motor	The program will develop a prototype rocket motor using new technology that if successful will support extended ranges.	Prototyping
STANDARD Missile-6 Block IB Phase IB All Up Round	The program will develop an upgrade to the existing missile, integrating a new larger diameter rocket motor, steering control section, and control surfaces, enabling extended ranges.	Prototyping

Source: GAO analysis of Department of Defense data. | GAO-19-439

Note: Acquisition category I programs have a dollar value for all increments estimated to require an eventual total expenditure for research, development, test, and evaluation of more than $480 million, or for procurement of more than $2.79 billion, in fiscal year 2014 constant dollars or have been designated as a special interest by the milestone decision authority.

Appendix VI: Department of Defense (DOD) Efforts to Implement Portfolio Management Best Practices

The conference report for the National Defense Authorization Act for Fiscal Year 2018 and the Senate Armed Services Committee report accompanying a bill for the National Defense Authorization Act for Fiscal Year 2018 included provisions for GAO to review project, program, and portfolio management standards within DOD. This appendix includes our assessment of DOD's efforts to implement our previous portfolio management recommendations and identifies opportunities and challenges related to portfolio management that DOD may face as it continues to implement acquisition reforms.

Portfolio management is used by leading commercial companies to help ensure their investments are optimized to meet customer needs within available resources. Portfolio management focuses on products collectively at an enterprise level and involves evaluating, selecting, prioritizing, and allocating limited resources to projects that best accomplish strategic or organizational goals. It is also a vehicle to make a wide variety of decisions, including capability and funding trade-offs, to achieve the optimal capability mix for a given level of investment.

For DOD, effective portfolio management can help to ensure that weapon system investments are strategy-driven and affordable and balance near- and long-term needs. Take a hypothetical example in which DOD starts with 10 programs and $50 billion to invest. Without portfolio management, program managers may seek to get the most that they can out of each of the 10 programs, without assessing their aggregate contributions to defense. Using portfolio management, DOD executives would look at different combinations of and approaches to the 10 programs to determine what, collectively, would provide the best capabilities for $50 billion. This would enable executives to decide, for example, whether it is better to concentrate more investment in seven programs rather than fund all 10 as best as possible. In another example, if a program began to have cost or performance problems, portfolio management would consider whether the other programs in the portfolio could address the requirements of the problematic program rather than just putting more money into it.

Portfolio management activities at DOD are carried out at both the enterprise level and the military department level and responsibilities are divided among the requirements community, the acquisition community, and the budget community. At the enterprise level, the primary offices responsible for portfolio management are the Joint Staff (representing the requirements community), the Under Secretary of Defense for Research and Engineering and the Under Secretary of Defense for Acquisition and

Sustainment (representing the acquisition community), and the Director of Cost Assessment and Program Evaluation (representing the budget community).

Portfolio Management Best Practices

In 2007, we identified several best practices for portfolio management, which we revalidated in 2015.[1] These leading practices encourage organizations to

- assess product investments collectively from an enterprise level, rather than as independent and unrelated initiatives;

- continually make go/no-go decisions through a gated review process to rebalance portfolios based on investments that add the most value;

- use an integrated approach to prioritize needs and allocate resources in accordance with strategic goals;

- rank and select investments using a disciplined process to assess the costs, benefits, and risks of alternative products;

- empower leadership to make investment decisions and hold leadership accountable for investment outcomes; and

- provide sustained leadership for portfolio management.

Portfolio management best practices and the Project Management Institute's portfolio management standards also state that organizations should conduct regular reviews to adjust to strategic changes or changes in the mix of products within a portfolio, among other reasons.[2] From a DOD perspective, portfolio reviews can help increase return on taxpayers' investments in weapon systems in a number of ways, such as: helping to ensure investments align with national security and military strategies; prioritizing the most important investments; selecting the optimum mix of investments; identifying and eliminating unwarranted duplication; monitoring programs' health to determine whether changes to the

[1]GAO, *Weapon System Acquisitions: Opportunities Exist to Improve the Department of Defense's Portfolio Management,* GAO-15-466 (Washington, D.C.: Aug. 27, 2015) and *Best Practices: An Integrated Portfolio Management Approach to Weapon System Investments Could Improve DOD's Acquisition Outcomes,* GAO-07-388 (Washington, D.C.: Mar. 30, 2007).

[2]Project Management Institute, Inc. *The Standard for Portfolio Management—Fourth Edition* (Newtown Square, Pa.: 2017).

portfolio are warranted; and determining whether investments are affordable.

Previous GAO Findings and Recommendations on Portfolio Management at DOD

We have previously reported that DOD was not effectively using portfolio management to optimize its weapon system investments.[3] In 2015, we identified several factors that inhibited DOD's ability to do so, including fragmented governance, a lack of sustained leadership, and a perceived lack of decision-making authority at the enterprise level. We also found that DOD's portfolio management policy was dated, not fully consistent with best practices, and was not being implemented by the Department, in part due to changes in leadership priorities.[4] Further, DOD's enterprise-level requirements, acquisition, and budgeting communities—meaning those at the Office of the Secretary of Defense, Joint Chiefs of Staff, and Joint Staff level—were not consistently conducting portfolio reviews or collaborating to integrate key information. As a result, we reported that DOD may have been missing opportunities to better leverage its resources and identify investment priorities that best reflect DOD-wide needs.

We recommended that DOD update its portfolio management policy; designate a senior official responsible for its implementation; conduct annual portfolio reviews that integrate key information from the requirements, acquisition, and budget processes; and invest in analytical tools to support its portfolio management efforts. DOD partially concurred with the recommendations, but the planned actions DOD identified at the time of our report did not fully address the issues we identified. As of March 2019, DOD had yet to implement our recommendations from 2015 (see table 16 for details of implementation status).

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[3]GAO-15-466 and GAO-07-388.

[4]Department of Defense Directive No. 7045.20, *Capability Portfolio Management (*Sept. 25, 2008, incorporating change 1, May 25, 2017).

Table 16: Status of Department of Defense's (DOD) Efforts to Implement GAO's 2015 Recommendations on Weapon System Portfolio Management

Action recommended by GAO in 2015	Implementation status
DOD should designate the Deputy Secretary of Defense, or some appropriate delegate, responsibility for providing sustained leadership for portfolio management efforts and implementing DOD Directive 7045.20 on Capability Portfolio Management.	Not implemented. DOD has not designated the Deputy Secretary of Defense, or some appropriate delegate, responsibility for providing sustained leadership for portfolio management efforts and implementing DOD Directive 7045.20 on Capability Portfolio Management. In its response to GAO's recommendation, DOD stated that it did not plan to designate an official responsible for overseeing portfolio management.
DOD should revise DOD Directive 7045.20 on Capability Portfolio Management in accordance with the best practices GAO has identified.	Not implemented. In January 2019, responsibility for DOD Directive 7045.20 was transferred to the Office of the Under Secretary of Defense for Acquisition and Sustainment from the Office of the Under Secretary of Defense for Policy, which sponsored the directive when it was issued. The official who is now responsible for the policy told GAO in February 2019 that the Under Secretary of Defense for Acquisition and Sustainment plans to revise the policy as soon as practicable.
DOD should require annual enterprise-level portfolio reviews that incorporate key portfolio review elements, including information from the requirements, acquisition, and budget processes.	Not implemented. DOD has not required annual enterprise-level portfolio reviews. In November 2018 and February 2019, respectively, officials from the requirements and acquisition communities told GAO that while they continue to assess portfolios within their sphere of responsibility, they do not conduct annual integrated portfolio reviews that consider information from the requirements, acquisition, and budget processes.
DOD should direct the requirements, acquisition, and budget communities to collaborate on their portfolio management data needs and develop a formal implementation plan for meeting those needs either by building on the database the Joint Staff is developing or investing in new analytical tools.	Not implemented. DOD has not developed a formal implementation plan for meeting its portfolio management data needs. In December 2018 and January 2019, officials from the offices of the Under Secretary of the Defense for Acquisition and Sustainment and the Under Secretary of Defense for Research and Engineering told GAO that they continue to rely on ad-hoc data collection efforts and need additional, reliable data for portfolio management. However, the Joint Staff, which is part of the requirements community, continues to take steps to improve the databases it manages to help provide this information

Source: GAO recommendations from GAO-15-466 and GAO analysis of DOD documents and interviews with DOD officials. | GAO-19-439

Recent Acquisition Reforms Offer Opportunities to Improve Portfolio Management at DOD but Could Also Exacerbate Existing Challenges

It is too soon to assess the effect of the acquisition reforms we reviewed on DOD's portfolio management efforts because a critical mass of programs has not yet gone through the new acquisition processes. Depending on how the department implements these reforms, some aspects of these reforms could help to address previously-identified deficiencies in portfolio management in the department. For example:

- Officials in the Office of the Under Secretary of Defense for Acquisition and Sustainment told us that now that milestone decision authority for major defense acquisition programs has largely shifted from the Office of the Secretary of Defense to the military departments, they expect that they will have more time to focus on portfolio-level issues such as identifying how systems need to work

together to fill capability gaps since they are less involved in the details of individual programs. We previously reported that DOD's processes were too focused on optimizing individual investments rather than considering investments across the department.

- The process developed by DOD to establish cost, fielding, and performance goals brings together officials from DOD's acquisition, requirements, and budget communities, the three key entities with responsibility for portfolio management, to provide advice on the establishment of program goals.[5] We previously reported that DOD's enterprise-level processes, organizations, and decision makers oversee weapon system investments generally as stove-pipes and not as an integrated whole.[6] While the process assesses programs on an individual basis rather than collectively from an enterprise level as called for by portfolio management best practices, it may still provide additional shared insight across the acquisition, requirements, and budget communities to help assess portfolios in a more integrated fashion at an enterprise level.

However, other aspects of certain reforms have the potential to exacerbate challenges we have previously identified with DOD's portfolio management approach if not actively managed. For example:

- Realigning roles and responsibilities for decisions related to weapon systems programs could lead to further questions about who is ultimately responsible and accountable for portfolio management decisions if leadership roles are not clearly defined. We previously reported that DOD's governance structure for portfolio management was fragmented in part as a result of widely-dispersed decision making responsibilities for weapon system investments. We found that this dispersion of responsibility made it difficult to determine who was empowered to make enterprise-level weapon system investment decisions and who can be considered portfolio managers. According to portfolio management best practices, leadership should be clearly defined and held accountable for outcomes.

- Programs under middle-tier acquisition pathways have fewer requirements to report program information to offices within the Office

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[5]Department of Defense, Deputy Secretary of Defense: *Procedures for the Establishment of Program Cost, Fielding, and Performance Goals for Major Defense Acquisition Programs* (Nov. 16, 2018) (For Official Use Only).

[6]GAO-15-466.

of the Secretary of Defense and the Joint Staff than major defense acquisition programs. For example, middle-tier acquisition programs are generally exempted from the Joint Capabilities Integration and Development System for requirements development.[7] Therefore Joint Staff officials may have less information about program requirements than for a major defense acquisition program. Office of the Secretary of Defense officials told us they are working with the military departments and other stakeholders to determine what information is needed for oversight and portfolio management for middle-tier acquisition programs. Office of the Secretary of Defense and Joint Staff officials told us that guidance issued by the Under Secretary of Defense for Acquisition and Sustainment in October 2018 that gives the Office of the Secretary of Defense and Joint Staff formal roles in a governance process may help to ensure sufficient insight.[8]

- DOD's ability to develop a common set of portfolios to facilitate integrated portfolio analysis may be more difficult. We previously reported that the requirements, acquisition, and budget communities at DOD were using different portfolio constructs, meaning that they defined their portfolios differently and did not use a standard approach to group investments into portfolios. We identified the use of different approaches as a barrier to taking an integrated approach to prioritize needs and allocate resources in accordance with strategic goals, as called for by portfolio management best practices. For example, the requirements community uses eight joint capability areas for examining warfighter needs, acquisition portfolios vary by military department, and budget data are organized into 11 major force programs. In our prior work, many officials at DOD said that using a wide variety of portfolio constructs is necessary and sometimes beneficial given the different roles and perspectives of the organizations involved. However, as notionally illustrated in figure 8, the different communities need to go through an extensive mapping exercise when they want to analyze their portfolios from another perspective—for example, examining funding associated with joint capability areas.

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[7]Air Force guidance on the requirements validation process for middle-tier programs states that requirements documents will be forwarded to the Joint Staff for their awareness and a determination of whether a joint interest exists.

[8]Department of Defense, Under Secretary of Defense (Acquisition and Sustainment): *Middle Tier of Acquisition (Rapid Prototyping/Rapid Fielding) Interim Governance* (Oct. 9, 2018).

Figure 8: Notional Mapping of Portfolio Constructs

Requirements community portfolios
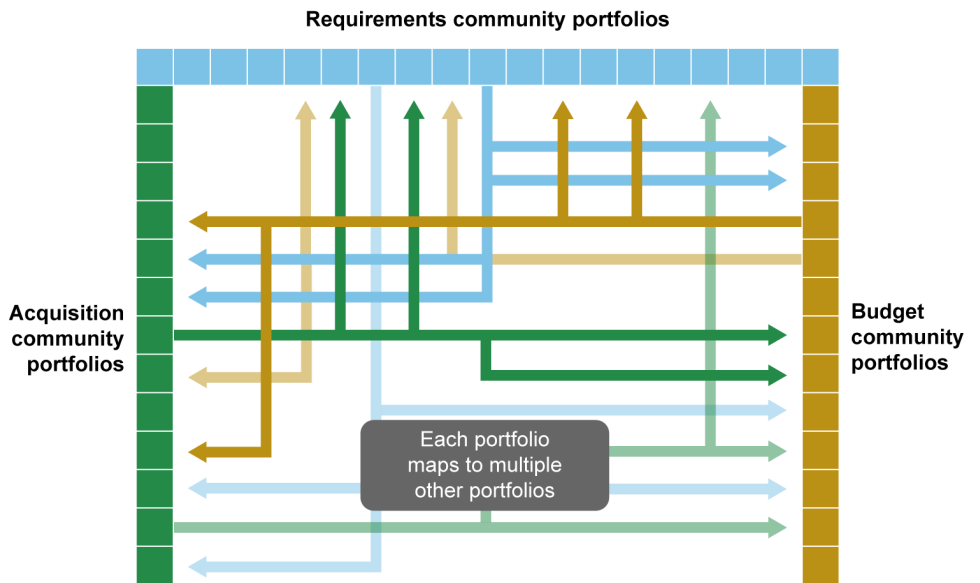
Source: GAO analysis of Department of Defense policies and documents. | GAO-19-439

With the reorganization of the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, officials from the Offices of the Under Secretaries of Defense for Research and Engineering and Acquisition and Sustainment told us that portfolio management activities that used to be conducted by the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics are now split between their offices. Officials from the Office of the Under Secretary of Defense for Research and Engineering told us that they were still in the process of determining what portfolio construct they would use to group investments for portfolio management purposes. If that office decides to use a different portfolio construct than other entities, that decision will increase the already complex process of mapping together portfolios in order to perform an integrated portfolio analysis. Officials from both offices told us that they were working on a pilot effort to conduct portfolio management by focusing on DOD's missions rather than programs, which could help to standardize the portfolio constructs if the approach is accepted on a wider scale.

Appendix VII: Comments from the Department of Defense

ASSISTANT SECRETARY OF DEFENSE
3600 DEFENSE PENTAGON
WASHINGTON, DC 20301-3600

ACQUISITION

MAY 1 4 2019

Ms. Shelby Oakley
Director, Contracting and National Security Acquisitions
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Oakley:

This is the Department of Defense (DoD) response to the Government Accountability Office Draft Report, GAO-19-439, "DoD Acquisition Reform: Leadership Attention Needed to Effectively Reform Acquisition Oversight," dated April 15, 2019 (GAO Code 102560). Detailed comments on the report recommendations are enclosed. Additional comments on the report contents have been forwarded for GAO consideration via separate correspondence.

Sincerely,

Kevin M. Fahey

Enclosure:
As stated

GAO Draft Report Dated April 15, 2019
GAO-19-439 (GAO CODE 102560)

"DOD Acquisition Reform: Leadership Attention Needed to Effectively Reform Acquisition Oversight"

DEPARTMENT OF DEFENSE COMMENTS
TO THE GOVERNMENT ACCOUNTABILITY OFFICE RECOMMENDATIONS

RECOMMENDATION 1:
The Government Accountability Office recommends that the Secretary of Defense should direct the Under Secretary of Defense for Acquisition and Sustainment to identify in final guidance the types of business case elements potential middle-tier acquisition programs should develop and decision makers should consider at program initiation to assess the soundness of program's business cases, including whether programs are well positioned to meet statutory objectives.

DoD RESPONSE: DoD concurs with the recommendation. Final guidance is expected to include the types of business case elements that decision makers should consider at program initiation, including whether programs are well positioned to meet statutory objectives. The Under Secretary of Defense for Acquisition and Sustainment began the process for developing the final guidance in March 2019 after issuing interim policy and procedures in 2018. The initial guidance provided the Components the authority to prototype the policy and enabled the collection of lessons learned that will inform final policy. The collaborative process establishing final guidance is expected to conclude in September 2019.

RECOMMENDATION 2:
The Government Accountability Office recommends that the Secretary of Defense should direct the Under Secretary of Defense for Acquisition and Sustainment to determine and identify in final guidance for middle-tier acquisition programs the metrics that will be used to assess the performance of middle-tier acquisition programs across the military departments, including whether programs are meeting statutory objectives.

DoD RESPONSE: DoD concurs with the recommendation. Since interim policy and procedures were issued in 2018, the Department has been collaboratively working to establish the proper metrics for middle-tier acquisition programs that inform decision makers while encouraging rapid program performance. The specific approach to metrics is expected to be coordinated with the release of middle-tier final policy in late 2019.

RECOMMENDATION 3:
The Government Accountability Office recommends that the Secretary of Defense should ensure that a comprehensive framework that clarifies the roles and responsibilities of the Office of the Secretary of Defense and the military departments for acquisition oversight is communicated by senior leadership. This framework should be detailed enough to address areas of continued

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disagreement among key stakeholders and serve to inform the department's revision of other acquisition policies such as DOD Instruction 5000.02.

DoD RESPONSE: DoD concurs with the recommendation. The Department's leadership continues to be actively engaged in the implementation of statutes that substantially impact the operation of the defense acquisition system and the roles and responsibilities of the managing officials. Key changes include: the designation of the Service Acquisition Executives as Milestone Decision Authority for Major Defense Acquisition Programs; the establishment of a Middle Tier of Acquisition Authority for Rapid Prototyping and Rapid Fielding; the reorganization of the Office of the Secretary of Defense; and the requirement for cost, schedule and performance goals and independent technical risk assessments. The Department recognizes the substantive management impact of these and other changes and has addressed the associated responsibilities and business practices via implementing policy signed by the Deputy Secretary of Defense and other senior department officials. The roles and responsibilities of key acquisition officials will be finalized via the issuance of chartering directives and the re-issuance of 5000-series acquisition policy. This direction is expected to be issued by the end of the calendar year.

RECOMMENDATION 4:
The Government Accountability Office recommends that the Secretary of Defense should develop a plan for how the department will assess the effect of recent acquisition reforms, including identifying who will be responsible for the assessment and what data will be needed.

DoD RESPONSE: DoD concurs with the recommendation. The Department recognizes the importance of identifying, collecting, and assessing metrics that help measure the overall performance of the acquisition system. As part of the reorganization, the Department has included a division in the Office of the Assistant Secretary of Defense for Acquisition to analyze and assess this and other key aspects of high level oversight and policy.

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Appendix VIII: GAO Contact and Staff Acknowledgments

GAO Contact	Shelby S. Oakley, (202) 512-4841 or oakleys@gao.gov
Staff Acknowledgments	In addition to the contact named above, Cheryl Andrew (Assistant Director), Marie Ahearn, Peter W. Anderson, David Dornisch, Anne McDonough, Melissa Pope, Scott Purdy, Juli Steinhouse, Sara Sullivan, Anne Louise Taylor, Alyssa Weir, and David Wishard made key contributions to this report.