United States Government Accountability Office

Report to Congressional Committees

February 2015

ACQUISITION REFORM

DOD Should Streamline Its Decision-Making Process for Weapon Systems to Reduce Inefficiencies

Accessible Version

GAO-15-192

GAO Highlights

Highlights of GAO-15-192, a report to congressional committees

February 2015

ACQUISITION REFORM

DOD Should Streamline Its Decision-Making Process for Weapon Systems to Reduce Inefficiencies

Why GAO Did This Study

DOD has long sought to improve the efficiency of its weapon system acquisition process, including the time and effort needed to complete the milestone decision process.

The National Defense Authorization Act for Fiscal Year 2014 mandated GAO to review DOD's weapon system acquisition process. This report examines (1) the effort and value involved in the preparation for a milestone decision; (2) factors that influence the time needed to complete the milestone decision process; and (3) alternative processes used by some DOD programs and leading commercial firms.

To perform this work, GAO examined the levels of review and information requirements that are part of DOD's process. GAO surveyed 24 program managers and 40 other DOD officials on the value and the time to complete milestone documentation. For 15 program offices, we gathered data on the time to complete the entire milestone decision process. GAO discussed with DOD officials the factors that lead to inefficiencies. GAO also examined practices used by some classified DOD programs and five commercial firms generally recognized as leaders in product development.

What GAO Recommends

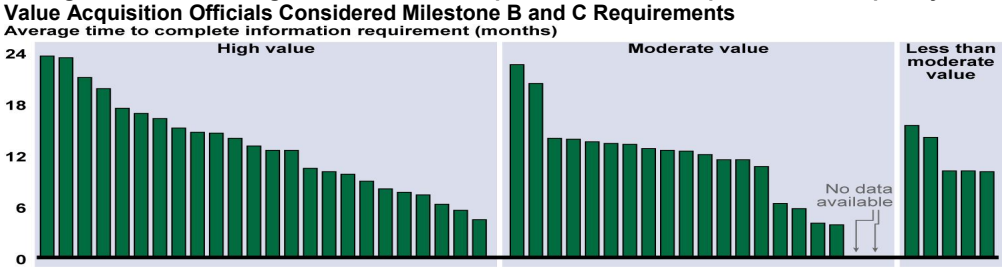
GAO recommends that DOD identify and potentially eliminate reviews and information requirements that are no longer needed and select programs to pilot more streamlined approaches to provide only the most essential information to decision makers. DOD concurred with both recommendations.

View GAO-15-192. For more information, contact Michael J. Sullivan, (202) 512-4841 or sullivanm@gao.gov.

What GAO Found

The acquisition programs GAO surveyed spent, on average, over 2 years completing numerous information requirements for their most recent milestone decision, yet acquisition officials considered only about half of the requirements as high value. The requirements, in total, averaged 5,600 staff days to document.

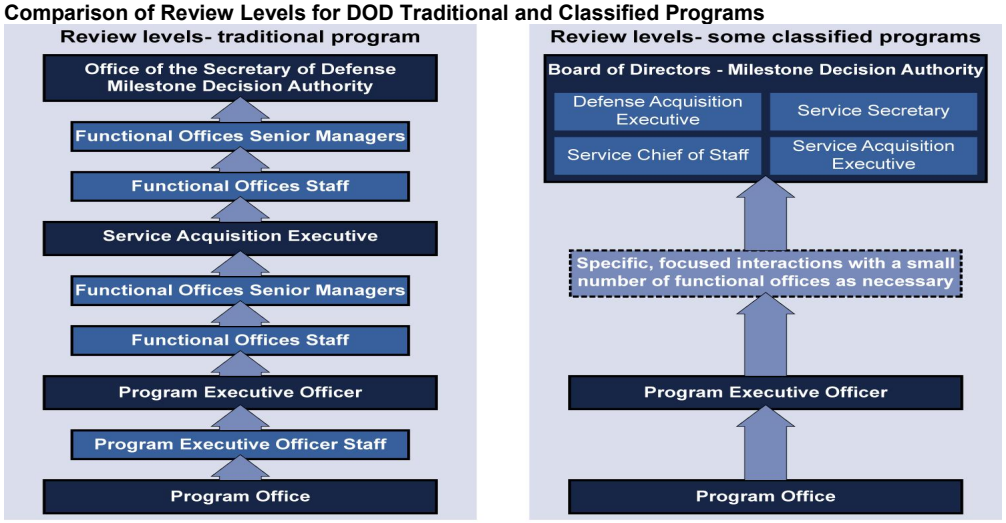
Average Time 24 DOD Programs Needed to Complete Information Requirements Grouped by the Value Acquisition Officials Considered Milestone B and C Requirements



Source: GAO analysis of DOD data. | GAO-15-192

The Department of Defense's (DOD) review process is a key factor that influences the time needed to complete information requirements. The process in some instances can include up to 56 organizations at 8 levels and accounts for about half of the time needed to complete information requirements. Most program managers felt that these reviews added high value to only 10 percent of the documents.

Comparison of Review Levels for DOD Traditional and Classified Programs



Source: GAO presentation of DOD data. | GAO-15-192

DOD's F-16 aircraft program, some classified programs, and five commercial firms GAO visited use streamlined processes with fewer documents and reviews and offer alternatives to the traditional DOD process. Establishing an efficient process for documentation and oversight is a key internal control to avoid wasteful spending. The challenge is to find the right balance between effective oversight and the competing demands on programs. DOD, however, has not yet identified ways to achieve the right balance by minimizing the time spent on information requirements and reviews that contribute to its inefficient milestone decision process.

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Abbreviations

ACAT Acquisition Category
DOD Department of Defense

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February 24, 2015

Congressional Committees

The Department of Defense (DOD) has repeatedly delivered the most capable weapon systems in the world, but with consistent schedule delays and at significant cost to taxpayers. The process used to manage the acquisition of these systems has been characterized by organizations both internal and external to DOD as one that is inefficient, cumbersome, and bureaucratic.[1] A contributing factor to this inefficient process is the significant time and effort required to complete information requirements before an acquisition program can proceed through a milestone to the next phase in the weapon system acquisition process. DOD leadership has acknowledged that too much time is invested in preparing for key milestones, including the documentation and oversight of information required by statutes and policy,[2] which takes time away from conducting day-to-day core program management tasks such as contractor oversight, engineering, and risk management.

There is a natural tension between oversight and accountability on one hand and efficient program management on the other. Oversight and accountability add process, which is justifiable given the high cost and risk associated with major weapons and the inherent incentives for program managers and contractors to be optimistic about what they can

[1] Defense Science Board, *Creating a DOD Strategic Acquisition Platform* (April 2009); Task Force on Defense Acquisition Law and Oversight, Business Executive for National Security, *Getting to Best: Reforming the Defense Acquisition Enterprise* (July 2009); Aerospace Industries Association, *Defense Acquisition Reform: Moving Toward an Efficient Acquisition System* (November 2011); Center for Strategic and International Studies, *Beyond Goldwater-Nichols: U.S. Government and Defense Reform for a New Strategic Era Phase 2 Report*, (July 2005).

[2] For purposes of this report, information required by statute are matters which the Interim DOD Instruction 5000.02 identifies a statute as the source of the requirement, and information required by policy are matters which the Interim DOD Instruction 5000.02 identifies a DOD directive, instruction, and/or manual, or a regulation as the source of the requirement. See Interim DOD Instruction 5000.02, Operation of the Defense Acquisition System Encl. 1, Table 2 (Nov. 25, 2013) (hereinafter referred to as Interim DODI 5000.02 (Nov. 25, 2013)). The final version of DOD Instruction 5000.02 was issued on January 7, 2015; however, for purposes of this report, we analyzed the information requirements contained in the Interim DOD Instruction 5000.02 dated November 25, 2013.

accomplish. The additional process does come at a cost of time and other resources that a program manager could potentially employ better. If it were clearly demonstrable that program cost and schedule outcomes have improved as oversight has intensified, then the additional process would be easy to accept. But, as we have reported over the years, program outcomes have not significantly improved. Thus, it is an appropriate time to assess the value of the documents and reviews demanded of today's acquisition process. We are not suggesting that individual actions to improve oversight were not justifiable, but rather questioning whether their cumulative demand is in balance with their desired effects.

According to federal internal control standards, agencies should develop effective and efficient processes to ensure that actions are taken to address requirements, such as in this case, completing the information required to aid in milestone decisions.[3] DOD has embarked on some initiatives aimed at streamlining different aspects of its weapon system acquisition process, but acknowledges more needs to be done. In the National Defense Authorization Act for Fiscal Year 2014, Congress mandated that GAO review DOD's weapon systems acquisition process, with an objective of identifying processes or procedures with little or no value added.[4] This report examines (1) the effort and value involved in DOD's preparation for a milestone decision, (2) the factors that influence the time needed to complete the milestone decision process, and (3) alternative processes used by some DOD programs and leading commercial firms.

In conducting our review, we examined relevant statutes, DOD policies, and military service guidance for DOD acquisitions. To help us gather data on the effort and value involved with preparing for a milestone review, we used two surveys on nongeneralizable samples of programs. Fifteen of 19 relevant major defense acquisition programs' offices completed the first survey. These programs each had a milestone decision since January 2011 and provided data on the time involved with

[3] GAO, *Internal Control: Standards for Internal Control in the Federal Government*, GAO/AIMD-00-21.3.1 (Washington, D.C.: Nov. 1999).

[4] Pub. L. No. 113-66, § 824 (2013).

completing the milestone decision process. Respondents for the other survey were 24 major defense acquisition program managers, 25 program executive officers, 3 military service acquisition executives, and 12 Office of the Secretary of Defense organizations identified as key stakeholders in the acquisition milestone decision process. These respondents provided the value they place on the statutory and policy information requirements. We received the completed surveys between July and October 2014. In addition, we selected four of these programs—two Army, one Air Force, and one Navy, that recently each had a milestone decision—as case studies to gain more in-depth knowledge about the milestone decision process. To understand the milestone decision process, key participants' roles, and factors influencing the efficiency of the process, we met with acquisition executives and functional leaders from disciplines such as testing, systems engineering, and cost within the Office of the Secretary of Defense and the military services. We also met with five leading commercial firms to examine their milestone decision processes. We discussed their review process, participants' roles, and key practices that enable a more streamlined approach. Finally, we reviewed several DOD classified programs to learn more about other DOD acquisition models. A more detailed discussion of our objectives, scope, and methodology is included in appendix I.

We conducted this performance audit from January 2014 to February 2015 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

As of December 2014, DOD's portfolio of major defense acquisition programs included 78 programs with a total estimated acquisition cost of roughly $1.4 trillion.[5] The Under Secretary of Defense for Acquisition,

[5] Major defense acquisition programs are those identified by DOD with a dollar value for all increments estimated to require eventual total expenditures 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.

Technology and Logistics is the defense acquisition executive, and for 38 of these 78 programs, the Under Secretary is the milestone decision authority, responsible for making decisions at major program milestones. These programs are referred to as Acquisition Category (ACAT) ID programs. For the remaining 40 programs, most of which are in production, the Under Secretary has delegated milestone decision making authority to the cognizant military service acquisition executive; these programs are referred to as ACAT IC programs.[6] DOD also has programs that have not entered the engineering and manufacturing development phase. These programs are not yet part of the portfolio, but are expected to enter soon. For these programs, the Under Secretary is normally the milestone decision authority.

In DOD's acquisition process, weapon system programs typically proceed through three major milestones—A, B, and C—where program offices provide information to the milestone decision authority in order to make a decision on whether the program is ready to transition to the next acquisition phase. The milestones normally represent transition points in the overall acquisition process where there is a marked increase in the resources 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; and Milestone C is the decision to enter the production and deployment phase. Figure 1 depicts DOD's acquisition process.

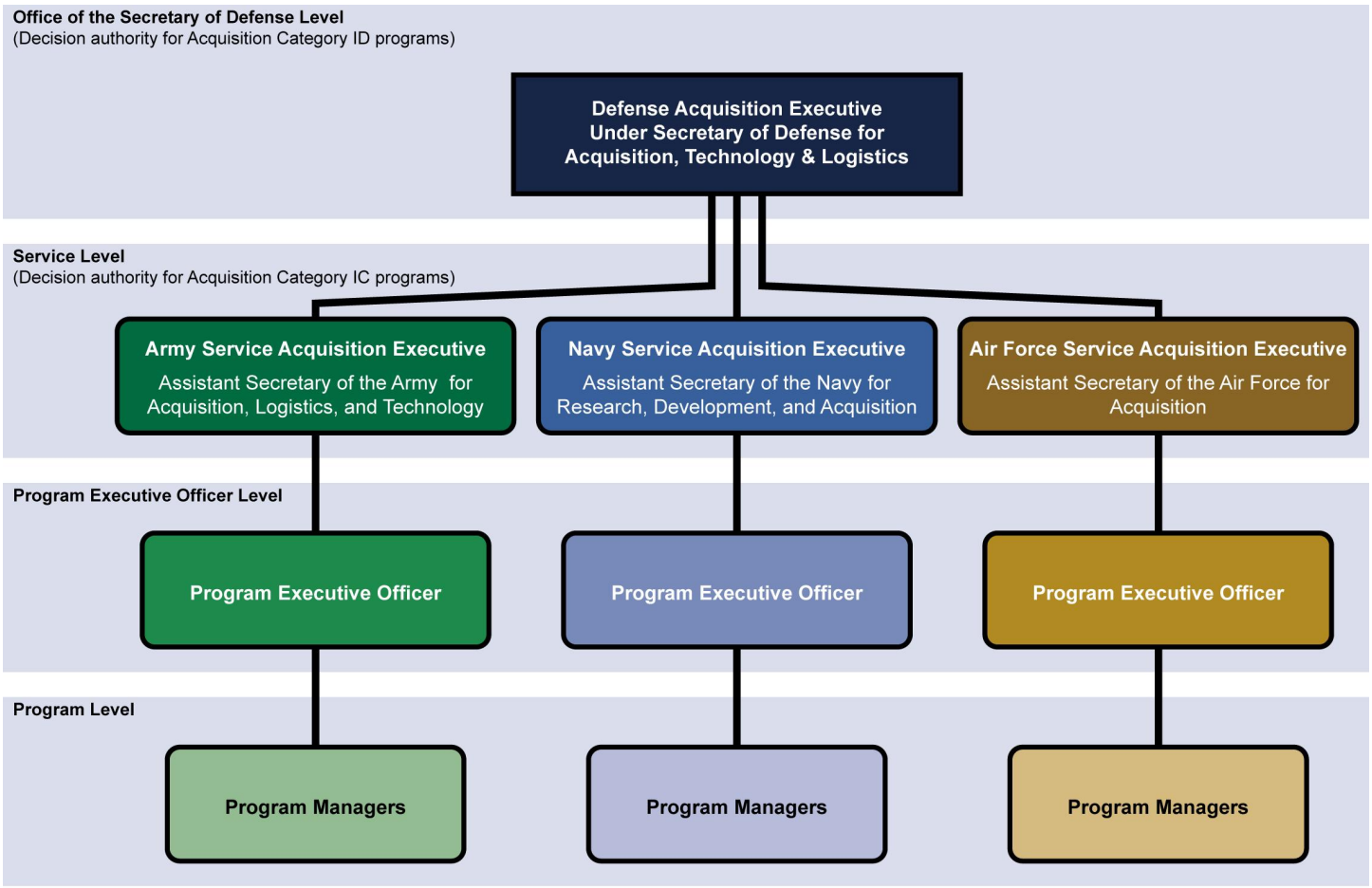
[6] The Defense Acquisition Executive may delegate decision authority for a major defense acquisition program to the DoD Component Head, who may, and generally will, delegate decision authority to the Component Acquisition Executive. Such delegation makes a major defense acquisition program an ACAT IC program. Interim DODI 5000.02, para. 4.a. (Nov. 25, 2013); Defense Acquisition Guidebook, para. 1.4 (Sept. 16, 2013).

Figure 1: Milestones in DOD's Weapon System Acquisition Process

Source: GAO analysis of DOD data. | GAO-15-192

DOD's acquisition process is managed and supported by officials at different hierarchical levels. Weapon system program managers typically report to program executive officers in each military service who are charged with overseeing the execution of a portfolio of related systems such as fighter aircraft or ships. Program executive officers, in turn, typically report to a military service acquisition executive, who reports to the defense acquisition executive. As part of the milestone decision process, programs are reviewed at each level before reaching the milestone decision authority. Figure 2 shows the different levels.

Figure 2: DOD's Hierarchy for Managing and Supporting Major Defense Acquisition Programs



Source: GAO analysis of DOD data. | GAO-15-192

Statutes and DOD policy require the documentation of specific information on major defense acquisition programs at each acquisition milestone. Our review focused on the information required at Milestone B, most of which is also expected at Milestone C.[7] Appendix II includes a list

[7] Of the 49 information requirements that have to be documented at Milestone B, 44 are also required at Milestone C. Two other requirements have to be documented at Milestone C and not at Milestone B. We did not include these two other requirements in our review.

and description of these information requirements. While several different Office of the Secretary of Defense organizations and other organizations have responsibility for compiling and documenting the information, the majority of the responsibility rests with the program office managing the acquisition.[8]

For nearly 20 years, GAO has examined the best practices for product development from over 40 commercial firms to identify potential opportunities for DOD to adopt and implement those practices. For this review, we visited five leading commercial firms that follow a gated or milestone process in developing new products. While their business models are different than DOD's, and often their products are less technically complex, commercial firms share a common goal with DOD in delivering their products to their customer on time and within cost estimates. Leading commercial firms can provide alternative approaches for milestone decision processes.

Information Required for Milestone Decisions Takes Significant Time and Effort to Document, but Does Not Always Add High Value

Programs we surveyed spent on average over 2 years completing the steps necessary to document up to 49 information requirements for their most recent acquisition milestone.[9] This includes the time for the program office to develop the documentation and for various stakeholders to review and approve the documentation. These 49 information requirements also took, in total, on average 5,600 staff days for programs to document. However, on average, almost half of these requirements, 24 of the 49, were not highly valued by the acquisition officials we surveyed. Four major defense acquisition programs we examined illustrate the challenges in completing the milestone decision process.

[8] For example, the Director, Cost Assessment and Program Evaluation office is responsible for developing independent cost estimates for major defense acquisition programs.

[9] Programs fulfill these requirements in fewer than 49 documents, as some documents contain information to meet multiple requirements and some requirements may not apply to all programs. For example, space programs have to complete an Orbital Debris Mitigation Risk Report that is not required for non-space programs.

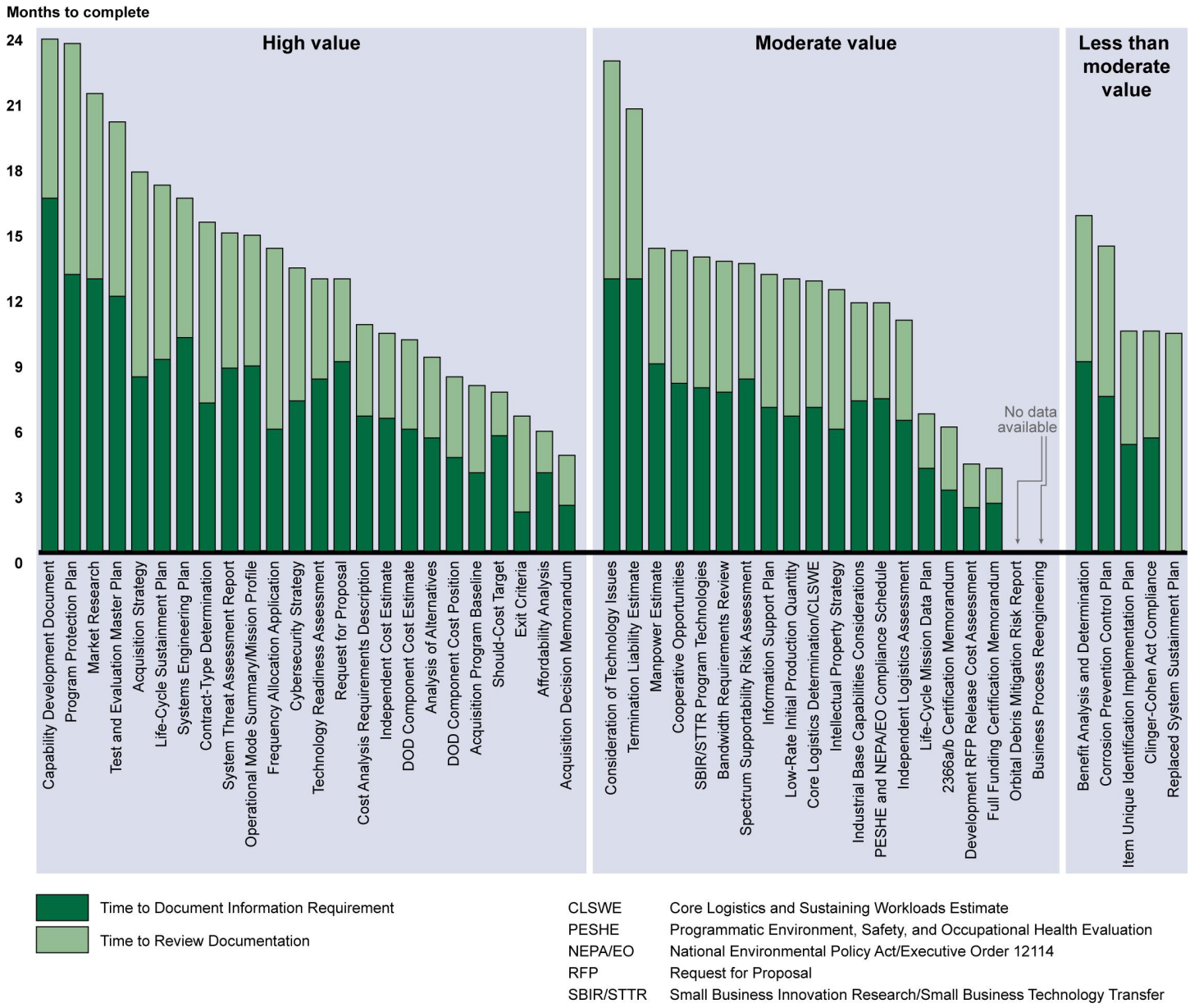
Programs Spend Considerable Time and Resources Documenting the Information Required at Milestones, but the Majority Are Not Highly Valued By Acquisition Officials

Programs can spend a significant amount of time documenting up to 49 information requirements in advance of a Milestone B or C review.[10] The requirements cover a vast array of program information, such as information on the overall acquisition strategy to justify the business case for a program; detailed implementation plans, such as those for systems engineering and testing; informational reports, analysis, and assessments; and decisions and certifications.

We surveyed 24 program managers that held a milestone B or C decision since 2010 and found that it took them over 2 years on average to complete the entire set of documents needed for the milestone decision. The program managers, as well as other acquisition officials we surveyed, considered on average about half of the information requirements as not highly valued. Figure 3 provides a summary of this information. More details about the survey results are presented in appendix III.

[10] As noted previously, of the 49 information requirements that have to be documented at Milestone B, 44 are also required at Milestone C.

Figure 3: Average Time 24 DOD Programs Needed to Complete Information Requirements Grouped by the Value Acquisition Officials Considered Milestone B and C Requirements



Source: GAO analysis of DOD data. | GAO-15-192

Note: Programs that prepared the Orbital Debris Mitigation Risk report and the Business Process Reengineering report provided value assessments, but did not provide data on the time it took to document and review these information requirements. Programs that prepared the Replaced System Sustainment Plan did not provide the time it took them to document the information requirement.

Programs spent an average of about 1 year to complete each information requirement. However, as shown in figure 3, there was a wide range in the length of time it took to complete documentation, as some took almost 2 years to complete and some took less than 6 months. About half of the time for each information requirement was spent documenting the information and the other half for review. These 49 requirements also took, in total, on average 5,600 staff days for programs to document. We did not ask programs to provide data on the staff days needed to review and approve the documentation because they do not have access to data on the amount of time officials at levels above them spend completing this process.

As shown in figure 3, acquisition officials on average considered

- 24 requirements as providing high value to their organization's role in the milestone decision process,
- 20 requirements as providing moderate value, and
- 5 requirements as providing less than moderate value.

Information requirements considered high value by stakeholders include a program's acquisition strategy, sustainment plan, and information related to planned technologies, cost, and testing. Several senior acquisition officials we met with considered many of these requirements as critical to the program's business case,[11] which typically includes documentation on the capabilities required of the weapon system, the strategy for acquiring the weapon system, and the cost, schedule, and performance baselines.

Information requirements valued the least (less than moderate value), on the other hand, include such documentation as the benefit analysis and determination for potentially bundling contract requirements; the Clinger-Cohen certification for information technology investments; the corrosion prevention control plan to assess the impact of corrosion on cost,

[11] A business case provides demonstrated evidence 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—including proven technologies, design knowledge, adequate funding, and adequate time to deliver the product when needed. Establishing a business case calls for a realistic assessment of risks and costs; doing otherwise undermines the intent of the business case and invites failure.

availability, and safety of equipment; the item unique identification implementation plan for managing assets; and the replaced system sustainment plan for documenting the estimated cost to sustain a system until the new program is fielded. One service acquisition executive, for example, stated that program managers should not have to develop an item unique identification implementation plan because government contractors put the unique identification numbers on parts. Another senior official stated that the Clinger-Cohen Act requirements are geared towards the acquisition environment of the 1990s.[12] This official believes the requirements should be updated to reflect the current environment for procuring information systems.

As part of the process of documenting the information required at the milestones, program officials brief cognizant officials responsible for the different functional areas, such as test or systems engineering, as well as senior leadership and the milestone decision authority on specific aspects of the program's overall plans. The briefings, done in parallel with the actual process of documenting the required information, are used as a forum for DOD to discuss the information and to determine a program's readiness for the milestone decision. Program offices can spend a great deal of time and effort briefing the different officials and senior leaders in advance of the milestone decision. Data provided by 9 of the programs we surveyed that recently had a milestone B decision showed that programs provided an average of 55 briefings over a period of just over a year and a half leading up to the milestone.

[12] Clinger-Cohen Act of 1996, Pub. L. No.104-106, 110 Stat. 642, 679 (1996) (Div. D and Div. E) (codified as amended at 40 U.S.C. §11101 -11704). The law, initially titled the Information Technology Management Reform Act of 1996, was subsequently renamed the Clinger-Cohen Act of 1996 in Pub. L. No. 104-208, § 808, 110 Stat. 3009, 3009-393 (1996). Information requirements related to Clinger-Cohen Act compliance are contained in Interim DODI 5000.02, Encl. 1 Tables 2 and 9 (Nov. 25, 2013).

Four Acquisition Programs Illustrate the Significant Time and Effort to Complete the Information Requirements

We examined four major defense acquisition programs, at least one from each military service that recently held a milestone decision, to get more specific details of the time and effort expended by programs to complete the milestone decision process. All four programs needed about 24 months to complete the process. While the number of documents varied for each program, it took an average of over 13 months to complete each document based on three programs that could provide data. Two of these programs used contractors to provide assistance in completing the documents. Figure 4 provides a summary of the overall effort required of these four programs—two of which were preparing for milestone B and the other two were preparing for milestone C.

Figure 4: Experiences of Four Programs to Complete the Milestone Decision Process

F-22 Increment 3.2B Modernization
Program description: A major software modification to the Air Force's F-22 fighter.

Months to complete milestone B decision process: 24 | Documents prepared for milestone: 33 | Briefings held for milestone: 74

Preparation of milestone documents required about 3,800 staff days, at an estimated cost of more than $10 million. According to the program office, it used a contractor to assist in preparing documents, at a cost of $800,000. Officials said the contractor was needed because the program office lacked expertise for several documents. It took an average of 13 months to complete each document. However, there were documents that required more time to complete. For example, the Life-Cycle Sustainment Plan took 20 months to complete, 15 months of which were spent in the review process. Program officials attributed the lengthy review time to a disagreement between the program manager and an Office of the Secretary of Defense official over the right amount of information that should be included in the document. Officials also told us many documents stalled during the review process because staff at the different review levels within the Air Force were not well informed about the program. As a result, a significant amount of time was spent updating the staff about the program before the officials could complete their review.

Paladin Integrated Management
Program description: A self-propelled Army howitzer and a tracked ammunition carrier.

Months to complete milestone C decision process: 26 | Documents prepared for milestone: 40 | Briefings held for milestone: 38

Preparation of milestone documents required about 9,867 staff days, according to the program office. The program office used contractors to assist with the documents (one contractor to provide expertise in preparing the Manpower Estimate, which the program office considers to have little to no value and one contractor to track the progress made in completing the documents). It took an average of about 15 months to complete each document. There were instances, however, where the time to complete a document exceeded this average. For example, the Program Protection Plan required 21 months to complete. Program officials told us that it took 9 months for the Defense Intelligence Agency to provide its input as part of the document preparation process.

Joint Light Tactical Vehicle
Program description: A family of vehicles designed to replace the Army's current multipurpose vehicle.

Months to complete milestone B decision process: 23 | Documents prepared for milestone: 26 | Briefings held for milestone: 32

The program was unable to provide information on the amount of staff days spent preparing each document, as it was not a metric it tracked. However, officials stated that in some instances, the time to review and approve documents was long. For example, the Program Protection Plan spent 7 months in the review and approval process because recommendations for new content were made at every level. Another document stalled for a month on a desk in an Army office because the staff did not understand the program well enough to review the document. The document was finally approved by this office after the program manager provided the staff a program briefing. According to the Joint Light Tactical Vehicle program manager this was not an uncommon occurrence, as he spent portions of 35 out of 52 weeks traveling to multiple offices to discuss the documents, and other issues, with reviewers.

P-8A
Program description: A commercial derivative aircraft designed to replace the Navy's P-3C Orion.

Months to complete milestone C decision process: 24 | Documents prepared for milestone: 32 | Briefings held for milestone: 28

According to program officials, completing the milestone documents is a long process requiring significant time and effort. It took an average of 12 months to complete each document, although some took much longer. For example, the Manpower Estimate required 12 months to develop and 10 months for review and approval (22 months total to complete) because of the extensive amount of data required and the extensive review process. Also, the Information Support Plan took 25 months to complete and during the review process, the document increased from 432 pages to 1,219 pages due, in part, to requests by Office of the Secretary of Defense staff to provide more detailed information on interoperability in the document. Program officials noted that although the review process can be challenging, each level or review provided opportunities for stakeholders to identify any issues that could potentially impact the program. The program was not able to provide specific information on the staff days needed to complete documents.

Source: U.S. Air Force (photo, F-22 Increment 3.2B Modernization); U.S. Army (photo, Paladin Integrated Management); JPO JLTV EMD Industry Contractors (AM General, Oshkosh Corp. & Lockheed Martin) (photo, Joint Light Tactical Vehicle); U.S. Navy (photo, P-8A). | GAO-15-192

Two of the programs that tracked the staff days required to prepare the milestone documents told us they spent 3,800 and 9,867 staff days,

respectively. These same programs also used contractors to assist with the documents.

The Number of Stakeholder Reviews at Each Milestone Is a Large Contributor to the Effort Needed to Complete Information Requirements

A primary reason it takes over 2 years to complete the information required for a milestone decision is the large number of stakeholders that review the documents at the many organizational levels above the program office. We found that stakeholders in many different offices among 8 different levels can review the information and documentation needed to support a milestone decision. According to the program offices we surveyed, these reviews added only moderate or less value to most documents. DOD recognizes that it has too many levels of review and has several initiatives to eliminate the acknowledged bureaucracy, but has had limited success implementing changes to reduce the time and effort needed to review documentation.

Reviews Are Conducted at Multiple Levels by Different Functional Organizations

The information and documentation required at milestones can be reviewed by as many as eight different organizational levels before a decision is reached on whether a program is ready for the next acquisition phase. In general, the information is reviewed at each level to gain approval before the program provides the information to the next level. This is done serially, which takes more time. Eventually, the defense acquisition executive and other senior executives review the information and determine whether the program is ready to proceed to the next acquisition phase. Figure 5 shows the multiple levels of reviews.

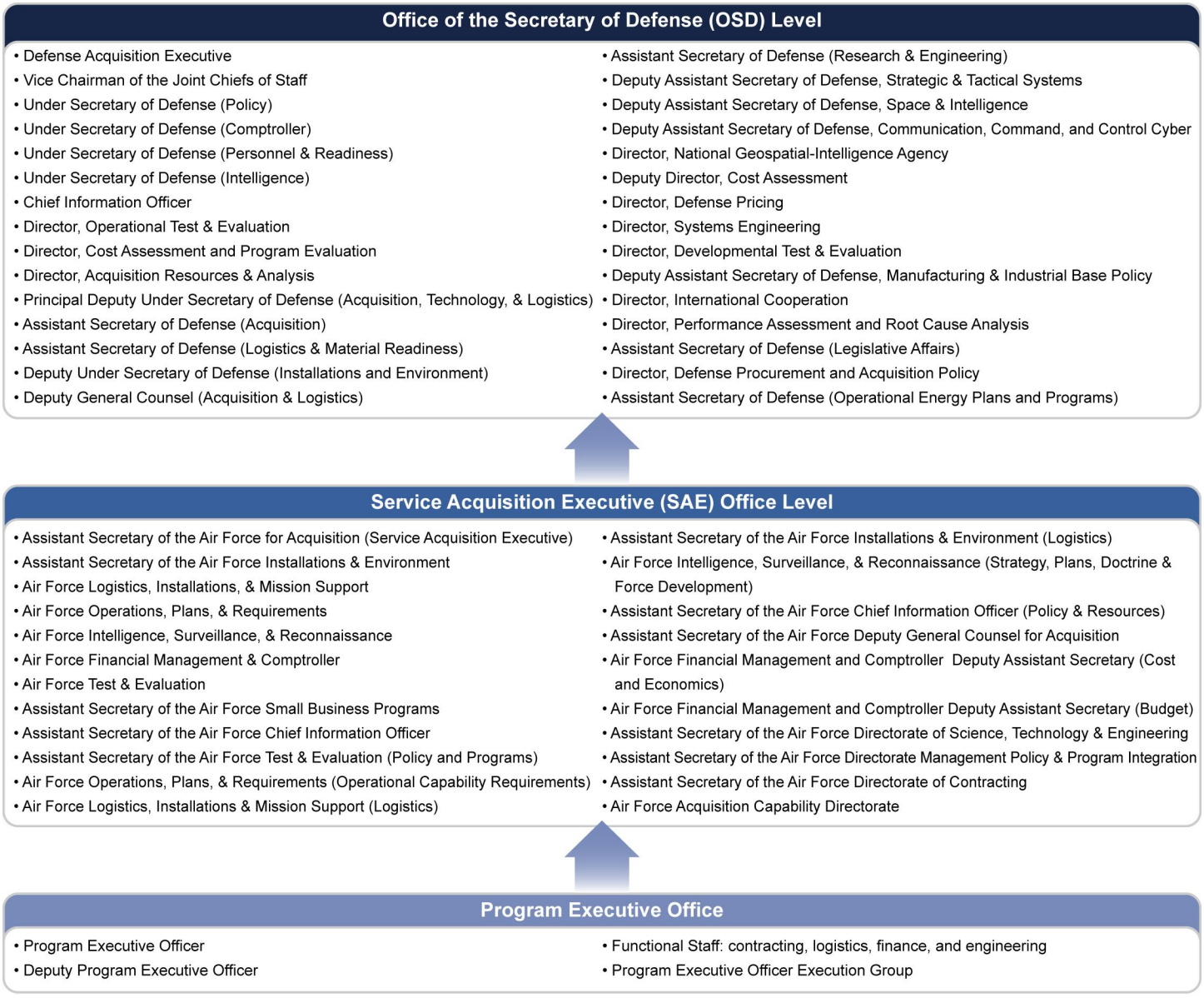
Figure 5: DOD Levels Reviewing Information Requirements

Source: GAO presentation of DOD data. | GAO-15-192

Many different functional organizations within each level review the information before the document is approved. The number of organizations conducting reviews varies depending on the information included in each document. A few documents that include a wide breadth of information can be reviewed by many offices at each level. For example, Air Force acquisition strategies, that on average took over 12 months to complete for the programs we surveyed, can be reviewed by

56 offices, some more than once, before being approved. Figure 6 lists the organizations involved in this review process.

Figure 6: Organizations Typically Involved in the Review Process for an Air Force Acquisition Strategy



Source: GAO presentation of DOD data. | GAO-15-192

The reviews of more narrowly focused documentation also go through different levels, but may be reviewed by fewer organizations at each level. As one example, offices at as many as four levels took an average of 7 months to review a program's Technology Readiness Assessment, based on responses to our survey. This assessment is prepared prior to Milestone B to show the results of an assessment of the maturity levels of the critical technologies planned to be integrated onto the program. Initially, the program office prepares an assessment of the different technologies' maturity levels, taking into account the conclusions reached by a panel of independent subject matter experts. Then, the program executive officer reviews and approves the assessment. Next, a service level expert, with possible assistance from a science and technology expert, reviews the assessment. After that, officials from the Office of the Secretary of Defense, Assistant Secretary for Research and Engineering office evaluate the assessment and make their own independent assessment. Finally, the milestone decision authority certifies whether to approve the program to enter engineering and manufacturing development or defer this decision until technologies are mature.[13] Each of these four levels of review, done serially, can present new questions and comments that need to be resolved before the program can satisfy the information requirement.

It is not the need or value of an acquisition strategy or a technology readiness assessment that is at question. A well-thought-out acquisition strategy that is supported by key stakeholders is critical for program success. Likewise, we previously recommended that weapon acquisition programs include mature technologies at the start of development to avoid cost and schedule growth.[14] Rather, when analysis reveals the significant amount of process that has evolved around essential activities like acquisition strategies and technology readiness assessments, the question becomes whether the additional process and review is achieving

[13] Section 2366b of title 10, U.S. Code, requires the milestone decision authority to certify that the technology in the program has been demonstrated in a relevant environment, based on an independent review and assessment, before Milestone B approval.

[14] GAO, *Defense Acquisitions: Assessments of Selected Weapon Programs*, GAO-08-467SP (Washington, D.C.: Mar. 31, 2008); and *Defense Acquisitions: Assessments of Major Weapon Programs*, GAO-04-248 (Washington, D.C.: Mar. 31, 2004).

desired program results in terms of better cost and schedule outcomes. If not, then a related question is whether the root cause of undesirable program results is related instead to incentives. We have reported previously on several factors that create incentives for DOD to deviate from sound acquisition practices and reform initiatives.[15] These factors include (1) mismatches between capability requirements and the knowledge, funding, and time planned to develop a new system, (2) programs being started to fill voids in military capability but quickly evolving to address other, conflicting demands, and (3) programs being funded in a way where there are few consequences if funding is not used efficiently.

DOD has recognized that its extensive review process is a challenge. A DOD study in 2011 highlighted the many organizational levels of oversight and said DOD has a "checkers checking checkers" system, which contributes to inefficiencies that can undermine program managers' execution of programs because they spend too much time complying with the oversight process, including documenting the information requirements.[16] Several program officials told us they spend extensive time and resources addressing conflicting comments/concerns expressed by the functional offices at the different levels during the review process. Officials also told us the functional staff conducting reviews typically wanted significantly more information than their superiors want or need and this often leads to multiple revisions. For example, the Deputy Assistant Secretary for Systems Engineering has indicated he wants limited, specific information in a systems engineering plan and even issued guidance to promulgate this direction. Despite this direction, we were told the systems engineering plan for one Navy program grew from 100 pages to 243 pages in length, because staff wanted additional information added as it went through the review process. In contrast, however, one of the three service acquisition executives we surveyed and some senior level officials within the Office of the Secretary of Defense

[15] GAO, *Defense Acquisitions: Addressing Incentives is Key to Further Reform Efforts*, GAO-14-563T (Washington, D.C.: Apr. 30, 2014).

[16] Report to the Secretary of Defense by DOD's Defense Science Board, *Review of DOD's Program Managers* (April 2011).

stated that staff reviews are helpful as they ensure the documentation is sufficient before executives at each level perform their review.

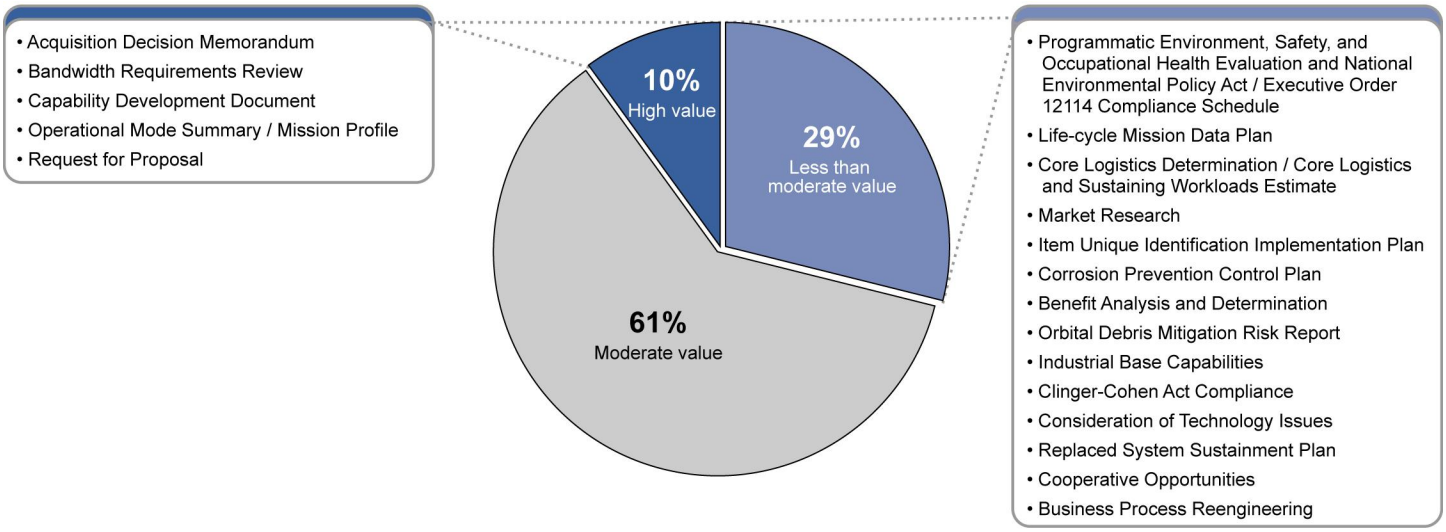
Service officials also told us that while it is important to get input from functional staffs on their areas of expertise, these staffs can have "tunnel vision," or focus only on their respective area and do not adequately consider whether their recommended changes to documentation might add schedule time, additional costs, or have other effects on a program. Officials expressed frustration that functional staffs are not held accountable for the potential effect on a program as a result of their recommended changes. Recently, the Under Secretary of Defense for Acquisition, Technology and Logistics has tried to clarify the role of some staff, stating in a memorandum that the service acquisition executives, the program executive officers, and program managers are responsible and accountable for the programs they manage; everyone else (i.e., staff supporting the Office of the Secretary of Defense staff) has a supporting or advisory role.[17]

Documentation Reviews Are Not Highly Valued by Program Officials

While there are multiple levels and many organizations involved in reviews, overall the 24 program managers we surveyed did not think these reviews added significant value to the documentation. The program managers considered the value added to 10 percent of the documentation to be high. However, for the remaining 90 percent of the documents, the officials believed the reviews did not add high value—61 percent were moderate and 29 percent less than moderate. Figure 7 provides a summary of the program offices' assessment.

[17] DOD, Under Secretary of Defense for Acquisition, Technology and Logistics Memorandum, The New Department of Defense Instruction 5000.02 (Dec. 2, 2013).

Figure 7: Program Offices' Assessments of the Value Added from Documentation Reviews of Information Requirements



Source: GAO analysis of data from 24 DOD programs. | GAO-15-192

Of the 14 documentation reviews that were considered to add less than moderate value, 2 documents were reviewed for an average of 10 months each and the others ranged between 2.5 and 8.5 months. Other service level officials we surveyed—program executive officers and the three service acquisition executives—had views similar to the program managers; they considered the value added to be high for less than 10 percent of the documentation.

DOD Has Had Limited Success in Streamlining Its Milestone Decision Process

DOD has acknowledged that too much time is spent on reviews and preparing documents and has taken some steps over the past several years to address some of the unproductive steps identified in its milestone decision processes.[18] For the most part, however, efforts to date have been limited in scope and have not had a significant effect on the amount of time and effort program offices spend on documentation required at milestones. One has even stalled. Examples of these efforts include:

[18] DOD, *Better Buying Power 3.0 White Paper* (Sept. 19, 2014).

- In 2011, the Under Secretary for Acquisition, Technology and Logistics delegated the approval authority for three milestone documents from the Office of the Secretary of Defense level to the service level.[19] This reduced the number of levels of review and reviewers of these documents. A DOD official told us the approval authority for additional documents could be delegated in the future, but no additional documents are currently being considered.
- In 2013, the Under Secretary for Acquisition, Technology and Logistics asked the service acquisition executives to identify programs where the milestone decision authority could be potentially delegated from the Office of the Secretary of Defense to a lower level. Delegation to the lower level also reduces the number of levels of review and reviewers. The services identified 18 programs: 7 programs from the Air Force; 5 programs from the Navy; and 6 programs from the Army. In September 2014 the Under Secretary of Defense for Acquisition, Technology and Logistics delegated the authority to act as the milestone decision authority to the Secretary of the Air Force for 3 programs, the Secretary of the Navy for 1 program, and the Secretary of the Army for 1 program.
- In April 2013, the Under Secretary of Defense for Acquisition, Technology and Logistics issued guidance that included a potential pilot test of a "skunkworks" process for major defense acquisition programs.[20] The Under Secretary requested that each service recommend one candidate program for a pilot test by July 2013. As of October 2014, programs had not been identified and the effort has been placed on hold. Office of the Secretary of Defense officials stated it has been difficult to identify programs that meet the Under Secretary's expected preconditions—namely to identify programs that have well defined requirements, a strong relationship with industry, and a highly

[19] These three documents were the Corrosion Prevention Control Plan; the Programmatic Environment, Safety, and Occupational Health Evaluation; and the Item Unique Identification Implementation Plan.

[20] The term skunkworks has become associated with innovative management techniques that allow programs to use a more flexible and streamlined process in order to develop products quicker and at lower cost. This term originated at Lockheed Aircraft Corporation, now Lockheed Martin Corporation, with their development of several classified programs dating back as early as the 1940s.

qualified and appropriately staffed government team that can remain with the program until it is delivered.

- In 2014, DOD began using an Electronic Coordination Tool designed to electronically disseminate and track the progress of documentation being reviewed. The tool is used to enforce time limits for the review of documents and provide near real-time views of all comments made during the review process to promote greater efficiency across the department. DOD officials have begun using this tool with the Acquisition Strategy and hope to add more documents over time.
- DOD is currently assessing many of the documents it develops in response to statutory information requirements and plans to propose legislative modifications to Congress in the spring of 2015 to help streamline documentation while still meeting the intentions of the statutes.

DOD's revised acquisition policy has also placed greater emphasis on "tailoring," which means modifying the traditional acquisition process, including documentation and reviews, to best suit a program's needs.[21] However, a few program officials told us that trying to tailor by obtaining waivers for milestone requirements involves significant time and effort, and that it is often easier to simply complete the requirements rather than try to obtain waivers. While we did not examine the overall use of tailoring by DOD programs during our review, we examined two programs that attempted tailored documentation and reviews, but in the end, neither was able to make significant changes. Specifically, the F-22 Increment 3.2B program told us they requested waivers for 17 requirements, but ultimately only 2 were waived. In addition, the Long Range Strike–Bomber, in direction provided by the former Secretary of Defense, was to be managed with a streamlined approach. The program was initially allowed the flexibility to tailor many of the needed documents and reviews. However, over time, these flexibilities have been scaled back.

[21] Interim DODI 5000.02 (Nov. 25, 2013).

DOD Has Experience Using a Streamlined Process, and Commercial Firms Also Offer Alternative Approaches

DOD has proven it can streamline its process. Several past programs, like the F-16 and F-117, were managed successfully with a more streamlined approach and DOD is currently using a more streamlined milestone decision process for some classified programs. Commercial companies we examined—Boeing, Caterpillar, Cummins, Honda, and Motorola Solutions—also use processes that minimize the levels of review resulting in a quicker, more efficient milestone decision process.

DOD's Initial Acquisition Policy Provided a Framework for a More Streamlined Process

In 1971, DOD issued its initial 5000 acquisition policy. The policy, which totaled seven pages, provided for minimum formal reporting and more streamlined layers of authority than the complex process in place today. Specifically, the original guidance provided for (1) minimal layers of authority above the program office; (2) few demands on programs for formal reporting; (3) minimal demands for non-recurring information and for responding to these requests informally; and (4) the development of a single, key document to support program management and milestone decision making. Over time, a large, bureaucratic process has supplanted these elements. For example, requirements have been added to improve cost estimating, logistics planning, design reviews, and technology maturity assessments. Each of these areas has been in great need of improvement and individual documentation and review requirements were aimed at addressing known shortfalls.

Several studies by acquisition experts over the past decade have highlighted the need for DOD to again streamline its process. For example, a Defense Acquisition Performance Panel stated in its 2006 report that complex acquisition processes do not promote program success, but increase cost, add to schedules, and obfuscate accountability. The Panel recommended that DOD create a streamlined acquisition organization with accountability assigned and enforced at each level.[22] In 2009, the Defense Science Board reported that DOD's milestone decision process should take a few days of preparation, not the months and months currently required. The report describes a process

[22] *Defense Acquisition Performance Assessment Report*, January 2006.

with too much bureaucracy, overlap and diffusion of responsibilities, and a need for excessive coordination among acquisition organizations. The report recommended that DOD streamline the acquisition process.[23]

DOD Has Used a More Streamlined Process with Success

The F-16 program, developed in the 1970s, was managed under a streamlined process laid out in the early acquisition guidance. DOD officials have often stated that one contributing factor to the F-16 program's success was the use of a more streamlined approach, where the number of levels of review and reviewers was minimized, and emphasis was placed on real-time program reviews in lieu of preparing formal reports and documents. According to one former DOD senior official, the program office was staffed with an experienced program manager and functional experts, which worked closely and collaborated with functional offices to achieve a common goal of fielding a usable combat capability as quickly as possible. The F-16 program also operated with different incentives than most programs, which enabled a more streamlined approach. For example, the F-16 was developed as a low-cost fighter with a strategy that involved making incremental technology improvements and incorporating performance trades by the customer to keep costs down.

The F-117 aircraft, which was largely developed in the early 1980s in a classified security environment, was managed with a "skunkworks" approach. According to a RAND study, central to the F-117 program approach was its flexibility and responsiveness in decision-making.[24] DOD leadership delegated more decision-making to the program office, with an associated reduction in detailed, document oversight by higher levels. RAND stated that the willingness to delegate decision making authority to lower levels enabled a quicker response to problems. A former Air Force senior leader during the program's development, who later served as the Under Secretary of Defense (Acquisition and Technology), stated that the program held monthly meetings between the

[23] Report of the Defense Science Board: *Creating a DOD Strategic Acquisition Platform*, April 2009.

[24] RAND Corporation, *Application of F-117 Acquisition Strategy to Other Programs in the New Acquisition Environment* (1996).

functional managers and program management. The meeting participants were empowered to make decisions and did not need to seek approval from their senior leadership after the meetings. It was expected that any issues would be addressed with their leadership prior to the meetings. The frequent interactions reduced the need for reports, documents, and reviews. In another report, a former senior Air Force acquisition officer, who also served as program director for the F-117, reported that the ability to have a quicker process comes from pushing decision-making to the lowest levels without having to proceed up the chain of command for approval to implement decisions.[25]

DOD is using a more streamlined approach for some of its current classified programs that may have the potential to make the milestone decision process more efficient. A few classified programs we reviewed are managed with a process that includes fewer levels and reviewers between the program office and decision authority.[26] For these programs, the program manager reports to the program executive officer who reports directly to a Board of Directors comprised of the service acquisition executive, service secretary and chief, and the defense acquisition executive. The Board of Directors serves as the milestone decision authority for the programs. Decisions by the Board are unanimous agreements by all members.[27] Leading up to the Board meeting, programs have separate, focused interactions with a small number of key functional offices as necessary. According to service officials, establishing this short, narrow chain of command allows for a more expedited decision-making process that requires less time and

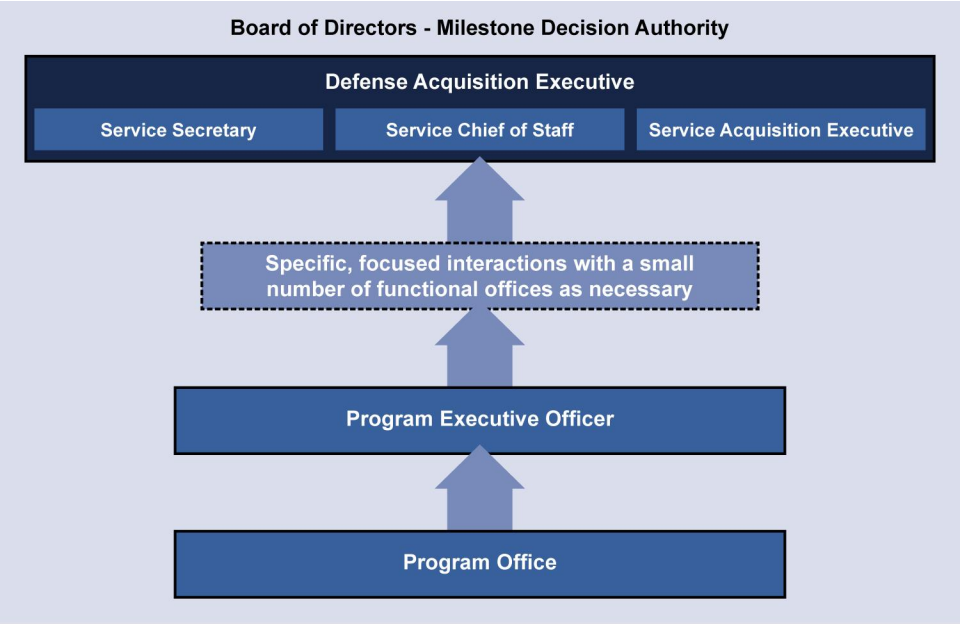
[25] An Air Force Association Report, Lt. General Dick Scofield, *Delivering Combat Capability at Home and Abroad* (Sept. 2004).

[26] Section 2430 of title 10, U.S. Code, specifically excludes highly sensitive classified programs (as determined by the Secretary of Defense) from the definition of a major defense acquisition programs. Therefore, statutes governing major defense acquisition programs generally do not apply to classified programs.

[27] According to the DOD charter, notwithstanding the vote, and in accordance with separate authority: the Under Secretary for Acquisition, Technology and Logistics may override the service Secretary, service Chief of Staff and service acquisition executive. In addition, the service Secretary may override the service Chief of Staff and/or service acquisition executive provided such override is documented.

resources. Figure 8 shows the levels of review for the milestone decision process.

Figure 8: Levels of Review Involved in the Milestone Decision Process for Some Classified Programs



Source: GAO presentation of DOD data. | GAO-15-192

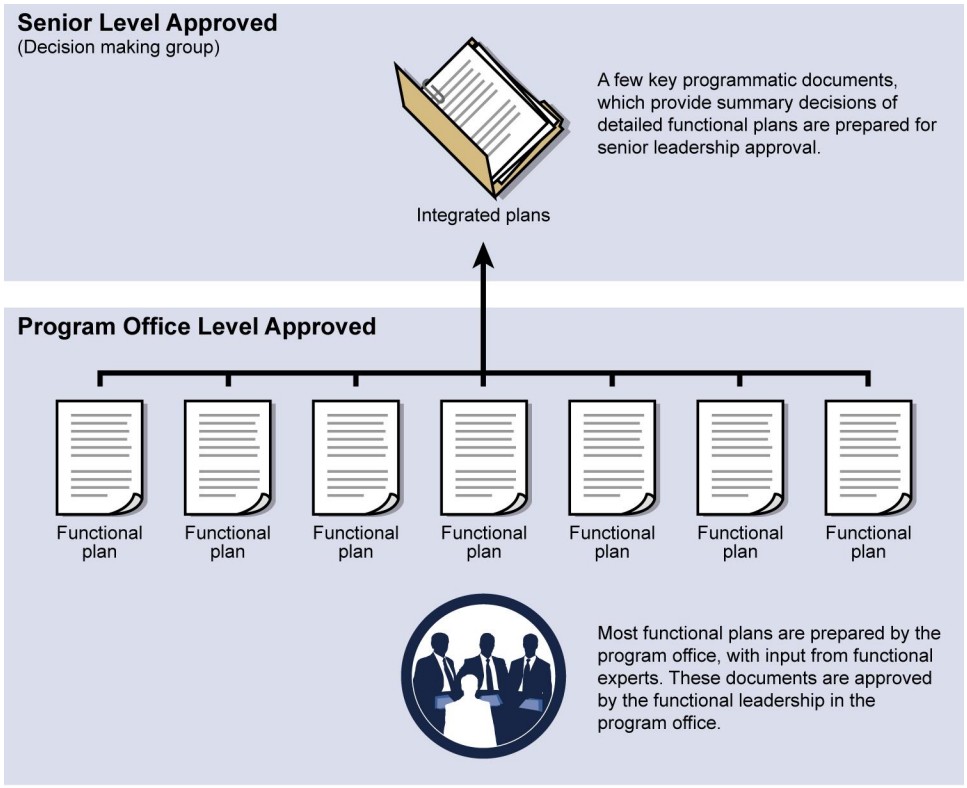
These programs prepare a tailored, streamlined acquisition plan, which is a key document supporting the milestone decisions. According to service officials, the program offices are supported by highly experienced experts that conduct a multifunctional review of the program's plan prior to seeking approval from the milestone decision authority. Service officials stated that acquisition planning focuses on (1) meeting the intent of statutory and policy requirements and (2) providing sufficient information for the Board of Directors to determine a program's readiness to enter the next acquisition phase. Acquisition planning also stresses a tailored, streamlined approach with special attention to avoiding unnecessary steps and documents that can slow a process down. According to service officials, for most programs that follow this approach it generally takes two months to complete the milestone decision process.

Commercial Firms Provide Alternative Approaches for Milestone Decisions

Commercial companies we examined—Boeing, Caterpillar, Cummins, Honda, and Motorola Solutions—use a more streamlined process than DOD traditionally uses for its major defense acquisition programs. Companies prepare similar documents as DOD acquisition programs, but only a few of the most critical ones, the business case documents, require senior management approval. A key enabler to this approach is the establishment of frequent, regular interactions between program officials and decision makers. Companies minimize the levels of review needed to determine whether a program is ready to advance to the next acquisition phase, resulting in a quicker, more efficient process.

The companies prepared documents similar to those of DOD such as development, test, engineering, and manufacturing plans. Officials at Motorola Solutions, Cummins, and Boeing stated that most documents are prepared and approved by functional managers assigned to the program office core team. Programs prepare an integrated document that summarizes key program information for the decision makers to review and approve. Figure 9 illustrates the levels at which documents are generally prepared and approved for commercial companies we visited.

Figure 9: Levels at Which Program Documents Are Generally Prepared and Approved for Commercial Companies We Visited



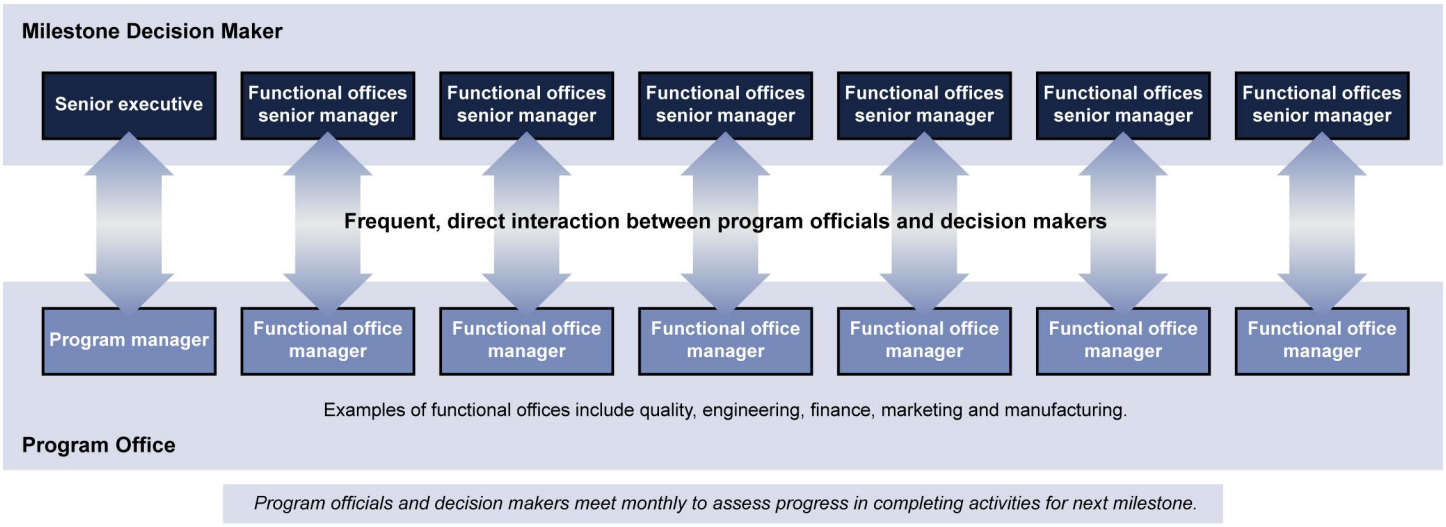
Source: GAO analysis and presentation of commercial practices. | GAO-15-192

According to company officials, the integrated document may include information on customer requirements, resources, schedules, risks, technical data, and market launch plans. As part of the milestone decision process, program managers also provide evidence that the other program documents have been completed and approved by the appropriate official.

For the companies we visited, ensuring that the program management team has a strong link to decision makers was a critical factor to their

streamlined approach.[28] Several companies held meetings between program officials and senior managers at frequent intervals to assess progress towards the next milestone decision. Officials stated that frequent, regular interactions enable senior managers to stay informed of program issues and plans, allowing the decision meeting to focus on making a well-informed decision, instead of spending time bringing decision makers up to date (see fig. 10).

Figure 10: Frequent, Direct Interactions between Program Offices and Decision Makers



Source: GAO analysis and presentation of commercial practices. | GAO-15-192

- Cummins functional managers, for example, meet one-on-one with senior program managers on a monthly basis to review program

[28] Three companies we visited established program offices with a small cross-functional team (10-20 people) with functional area managers and a program manager or leader. This small cadre, which typically stays on a program until completion, is supported by an expansive extended team that is matrixed from the different company functional areas (engineering, quality, etc.). This extended team works on multiple programs and is tasked based on the schedule demands of each particular program. According to the firms, this approach allows them to better allocate resources, providing needed flexibility to surge resources when and where needed. Firms also indicated that this approach provides opportunities for staff to gain a wide variety of knowledge and experiences from multiple programs.

progress. Officials stated that about 2 weeks prior to the decision meeting, a comprehensive review is conducted with each program's functional area manager, supporting team, and senior functional manager to ensure required activities have been completed before a milestone review and the plan going forward is sound.

- Boeing officials stated that they conduct a series of monthly meetings between program functional area managers and senior managers to assess whether a program is meeting the criteria needed for moving into the next phase. According to officials, the results provide support for the milestone decision.
- Honda has established an environment that encourages frequent, direct interaction between program participants. Senior managers, program managers, and staff work in an open bullpen environment, rather than offices. This layout facilitates real-time discussions across organizational levels, multiple programs, and functional areas. Issues can be quickly discussed and resolved as they arise so only the most important ones need to be addressed at the milestone decision meetings.

Companies we visited told us it typically takes only a few months or sometimes even a few weeks to complete the milestone decision process. The process for these companies included one or two levels of review to assess whether a program is ready to advance to the next phase. For example, Motorola Solutions and Cummins use a process in which programs proceed directly to the decision maker after they have packaged together information needed to support a milestone decision. Motorola Solutions program officials provided information to their decision makers about a week in advance of the decision meeting. During that week, program officials meet individually with principal members on the decision-making committee. The purpose of these meetings is not to present the program's plans but to address any last minute concerns. According to Motorola officials, the decision meeting typically lasts about 30 minutes because issues are usually resolved in these earlier meetings. Boeing and Honda generally include one additional level of review.

The commercial model, in which good program outcomes can be achieved with a more streamlined oversight process, includes a natural incentive that engenders efficient business practices. Market imperatives incentivize commercial stakeholders to keep a program on track to meet business goals. In addition, awards and incentives for managers are often

tied to the company's overall financial success. As a result, commercial managers are incentivized to raise issues early and seek help if needed. They know if the program fails, everyone involved fails because market opportunity is missed and business revenues will be impacted. Commercial product development cycle times are relatively short (less than 5 years), making it easier to minimize management turnover and to maintain accountability. DOD's acquisitions occur in a different environment in which cycle times are long (10 to 15 years), management turnover is frequent, accountability is elusive, and cost and schedules are not constrained by market forces. Seen in this light, DOD must have an oversight process that substitutes discipline for commercial market incentives. Several industry officials stated that companies often add oversight levels or reviews as a first reaction after failures or problems occur. However, the officials further stated that this does not solve the root problems and often it makes the process less efficient. Two companies we visited highlighted an inspection-intensive oversight process they implemented as a deliberate attempt to address problems that had occurred but found that it led to an adversarial environment and an inefficient process. Both companies eventually abandoned this approach and replaced it with an approach where program officials are incentivized to reach out to recognized experts within the company for assistance when needed.

Conclusions

Over time, DOD has essentially tried to overcome a legacy of negative cost and schedule weapon system program outcomes by requiring extensive documentation to support program strategies, plans, and other information prior to a milestone decision. Much of the information required in this documentation was added by policy as well as statute and these requirements likely represented legitimate reactions to problems. However, the consequence of this approach is that an extensive process has built up, in which program offices and other DOD organizations spend an enormous amount of time and effort preparing and reviewing documentation. Given the persistence of weapon system acquisition problems over decades, especially schedule delays and cost overruns, the effort involved with documenting and reviewing information requirements does not appear to correspond to the value gained. Programs we surveyed spent over 2 years completing information requirements that in some instances can be reviewed by as many as 56 organizations at eight levels. In the end, program officials felt almost half of these information requirements were not of high value. Further, program managers did not highly value the reviews by higher level DOD organizations for 90 percent of the documentation.

The need to document information about essential aspects of a program and for an appropriate level of review and approval is legitimate. However, over time, the outcomes of weapon system programs have proven resistant to the oversight process. At the same time, the process has become bloated, time-consuming, and cumbersome to complete. The challenge is to find the right balance between having an effective oversight process and the competing demands such a process places on program management. Meeting the challenge will depend on DOD's ability to identify the key problem areas in weapon system acquisitions and the associated root causes that exist today and whether information requirements and reviews are linked to addressing these problems. As we have noted in prior work, the most important information requirements—those that enable a program to establish a sound business case—include well-defined requirements, reasonable life-cycle cost estimates, and a knowledge-based acquisition plan. If information requirements and reviews are not clearly linked with the elements of a sound business case and/or the key issues facing acquisitions today, then they can be streamlined or even eliminated. If they are linked, but are not working well, then they warrant re-thinking. While the data support that change is needed, change does not mean weakening oversight, as unsatisfactory outcomes from acquisition programs may persist. Rather, the goal of change is to perform effective oversight more efficiently, and to recognize problems or incentives that require remedies and not just more information requirements.

In this time of decreasing defense budgets, where every dollar spent on inefficient activities is one less dollar available for modernizing our future force, a close look at the review process is warranted to provide stakeholders needed information in a more efficient and cost effective manner. The surveys of DOD acquisition officials we conducted, the results of which are shown in figure 3 and appendix III, highlight information requirements that provide less than moderate value to acquisition officials. These requirements, as well as ones that take a year or more to complete, could serve as a starting point for discussions on what documentation is really needed for weapon acquisition programs and how to streamline the review process. Officials within the Office of the Secretary of Defense believe the Electronic Coordination Tool shows promise for reducing review times on documents. Currently, it is being used to reduce review times for acquisition strategies, and other documents may be added in the future. Automating the document review process, however, is relatively easy compared to potentially eliminating levels of review because that will require DOD to move away from its "checkers checking checkers" culture and make tough choices as to

which levels of review do not add value and are not necessary. If DOD does not eliminate levels of review, inefficiencies are likely to continue. According to federal internal control standards, agencies should develop effective and efficient processes to ensure that actions are taken to address requirements, such as in this case, completing the required information to aid in milestone decisions. In other words, DOD should be striving to make its process more efficient.

Selecting pilot test programs to experiment with streamlined acquisition processes, while capturing lessons learned from the pilot, would be steps in the right direction. The pilot programs could rely on practices used by some DOD classified programs and private industry companies we visited—namely, fewer information requirements and levels of review and more frequent interaction between the program office and actual decision makers.

Recommendations for Executive Action

To help improve DOD's milestone decision process, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology and Logistics in collaboration with the military service acquisition executives, program executive officers, and program managers take the following two actions:

- In the near term, identify and potentially eliminate (1) reviews associated with information requirements, with a specific focus on reducing review levels that do not add value, and (2) information requirements that do not add value and are no longer needed. For the remaining reviews and information requirements, evaluate and determine different approaches, such as consolidating information requirements and delegating approval authority, which could provide for a more efficient milestone process. This effort should also include a re-examination of the reason(s) why an information requirement was originally considered necessary in order to determine what information is still needed and if a more efficient approach could be used. Findings and survey responses included in this report could be used as a starting point for this examination.
- As a longer-term effort, select several current or new major defense acquisition programs to pilot, on a broader scale, different approaches for streamlining the entire milestone decision process, with the results evaluated and reported for potential wider use. The pilot programs should consider the following:

- Defining the appropriate information needed to support milestone decisions while still ensuring program accountability and oversight. The information should be based on the business case principles needed for well-informed milestone decisions including well defined requirements, reasonable life-cycle cost estimates, and a knowledge-based acquisition plan.
- Developing an efficient process for providing this information to the milestone decision authority by (1) minimizing any reviews between the program office and the different functional staff offices within each chain of command level and (2) establishing frequent, regular interaction between the program office and milestone decision makers, in lieu of documentation reviews, to help expedite the process.

Agency Comments and Our Evaluation

DOD provided us with written comments on a draft of this report. DOD concurred with both of our recommendations. DOD's comments are reprinted in appendix IV.

DOD concurred with our first recommendation, indicating that the Department's Better Buying Power initiative contains efforts to streamline documentation requirements and staff reviews and its recent (February 2015) set of legislative proposals to Congress seeks to reduce some DOD reporting requirements. We acknowledge these efforts as steps in the right direction. We believe DOD can and should do more to eliminate reviews and information requirements that do not add value and are no longer needed. For the most part, efforts to date have been limited in scope and have not yet had a significant impact on the amount of time and effort program offices spend on documentation required at milestones. The Under Secretary of Defense for Acquisition, Technology and Logistics acknowledged in April 2014 that DOD has not had significant success in eliminating unproductive processes and bureaucracy. We also note that DOD's recent set of legislative proposals to Congress for inclusion into the National Defense Authorization Act for Fiscal Year 2016 primarily seek to reduce reporting requirements, but do not address streamlining the many levels of review. As we reported, a primary reason it takes over 2 years to complete the information required for a milestone decision is the large number of stakeholders that review the documents at the many organizational levels above the program office. While it will take a coordinated effort on the part of the Department, we believe DOD can reduce the many levels of review.

DOD also concurred with our second recommendation, indicating that while not yet fully implemented, it has a Better Buying Power initiative to identify appropriate programs to pilot test a streamlined acquisition approach. As we reported, however, DOD has not yet identified candidate programs even though the initiative was proposed in April 2013 and was supposed to begin in July 2013. DOD officials told us it has been difficult to identify programs that meet the preconditions for the pilot set by the Under Secretary of Defense for Acquisition, Technology and Logistics—namely programs that have well defined requirements, a strong relationship with industry, and a highly qualified government team that can remain with the program until it is delivered. We encourage DOD to initiate the pilot, specifically on some current programs that have recently held a milestone B or will be approaching this milestone soon (e.g. Presidential Helicopter, Armored Multi-Purpose Vehicle, Joint Air-to-Ground Missile, Next Generation Jammer, Amphibious Combat Vehicle), as long as the aforementioned criterion of well defined requirements is considered. Almost two years have passed since the initiative was first proposed and even after DOD decides on the specific programs for the pilot, it will most likely be several years until lessons learned can be documented and potentially applied to other programs. We reiterate that, when implemented, each pilot should examine different approaches for streamlining the entire milestone decision process, including defining the appropriate information needed to support milestone decisions, such as business case principles like well defined requirements, reasonable life-cycle cost estimates, and a knowledge-based acquisition plan. Pilot programs should also strive to develop a more efficient process for providing this information to the milestone decision authority, which would most likely include minimizing reviews between the program office and the different functional staff offices within each chain of command level and establishing frequent, regular interaction between the program office and milestone decision makers, in lieu of documentation reviews.

We are sending copies of this report to interested congressional committees; the Secretary of Defense; the Under Secretary of Defense for Acquisition, Technology and Logistics; and the Secretaries of the Air Force, Army, and Navy. This report also is available at no charge on GAO's website at http://www.gao.gov.

Should you or your staff have any questions on the matters covered in this report, please contact me at (202) 512-4841 or sullivanm@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

major contributions to this report are listed in appendix V.

Michael J. Sullivan, Director
Acquisition and Sourcing Management

List of Committees

The Honorable John McCain
Chairman
The Honorable Jack Reed
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Thad Cochran
Chairman
The Honorable Richard Durbin
Ranking Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

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

The Honorable Rodney Frelinghuysen
Chairman
The Honorable Pete Visclosky
Ranking Member
Subcommittee of Defense
Committee on Appropriations
House of Representatives

Appendix I: Objectives, Scope, and Methodology

This report examines the Department of Defense's (DOD) weapon system acquisition process. Specifically we examined (1) the effort and value involved in DOD's preparation for a milestone decision, (2) the factors that influence the time needed to complete the milestone decision process, and (3) alternative processes used by some DOD programs and leading commercial firms.

To determine the value and effort involved in DOD's preparation for a milestone decision, we collected data from current and future major defense acquisition programs.

First, we distributed two questionnaires by email in an attached Microsoft Word file asking program managers of current major defense acquisition programs to (1) provide a value for each information requirement applicable at either Milestone B or Milestone C; (2) provide a value for the review of each information requirement for either Milestone B or Milestone C; (3) provide the length of time required to develop each information requirement; (4) provide the number of staff days spent by the program office to develop each information requirement; (5) provide the length of time it took each information requirement to get through the review and approval process; and (6) identify the primary users and customers of each information requirement.[1] One questionnaire was sent to 11 program managers of current major defense acquisition programs identified in the Defense Acquisition Management Information Retrieval system as having completed a Milestone B decision review since January 1, 2010, and a different questionnaire to 15 program managers of current major defense acquisition programs identified in the Defense Acquisition Management Information Retrieval system as having completed a Milestone C decision review since January 1, 2010. We received responses from 24 program managers, between July and October 2014, 11 program managers from Milestone B programs and 13 program managers from Milestone C programs. Because there is a slight variation in the number of information requirements applicable at Milestone B verses at Milestone C, in our analysis we excluded 2 information

[1] For purposes of this report, we analyzed the information requirements contained in the Interim DOD Instruction 5000.02 dated November 25, 2013. The final version of DOD Instruction 5000.02 was issued on January 7, 2015.

requirements applicable at Milestone C—the Capability Production Document and the General Equipment Valuation.

We took a number of steps to ensure reliability of the data collected through our questionnaires, including reviewing responses to identify obvious errors or inconsistencies and conducting follow-up to clarify responses when needed.

Second, in a separate data collection effort to determine the number of briefings and the length of time needed to complete the milestone decision process, we submitted questions for an electronic questionnaire distributed to 55 programs, as part of GAO's Annual Weapons System Assessment. We asked programs if they had completed a milestone decision review as of January 1, 2011, and if yes, to provide additional information regarding that milestone review. Twenty-four programs out of 55 responded that they had completed a milestone decision review in that time frame; however, not all programs provided information on the review. Four programs were excluded from our analysis because they were unable to provide the additional data. Another 5 programs were excluded because we determined they have been designated as an Acquisition Category IC program; our analysis was limited to Acquisition Category ID programs. Of the 15 programs in our analysis, 11 are current programs and 4 are future programs. Our results are not intended to be generalizable and as such, results from nongeneralizable samples cannot be used to make inferences about all major defense acquisition programs.

To better understand DOD's milestone process, we selected 4 major defense acquisition programs to use as case studies to gain more in-depth knowledge about the milestone decision process: the Air Force's F-22 Increment 3.2B Modernization program, the Navy's P-8A program; and the Army's Joint Light Tactical Vehicle and Paladin Integrated Management programs. We used a data collection instrument to ensure we received similar information for all 4 case study programs in our review. We collected data on the number of briefings the program office held with program executive officers, service-level officials, and Office of the Secretary of Defense-level officials; the number of documents the program completed for the milestone decision review; and a timeline of their milestone decision review. In addition, we asked programs to provide detailed information related to the information requirements they prepared for the milestone, including the length of time spent documenting each information requirement; length of time it took the documentation to make it through the review process; the number of staff

days the program office spent documenting each information requirement; and the cost to document each information requirement. We also reviewed milestone documents that programs prepared for the milestone in order to better understand what information is contained within the documents. Finally, we met with program officials from each case study program to obtain additional information on the milestone decision process.

We selected our case studies based on input from officials with the military services using the criterion that the program had been through either Milestone B or Milestone C since January 1, 2010. Further, the programs we selected for review represent each of the military services. Two programs—F-22 Increment 3.2B Modernization and Joint Light Tactical Vehicle—completed a Milestone B review and 2 programs—P-8A and Paladin Integrated Management—completed a Milestone C review. While our sample of four case studies allowed us to learn about inefficiencies with the milestone decision process, it was designed to provide anecdotal information, not findings that would be representative of all of the department's major defense acquisition programs.

To determine the factors that influence the time needed to complete the milestone decision process, we met with officials and functional leaders and reviewed documents from several organizations within the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, including the Under Secretary. Specifically, we met with officials from the offices of (1) Acquisition Resources and Analysis; (2) Defense Procurement and Acquisition Policy; (3) Deputy Assistant Secretary of Defense for Systems Engineering; and (4) Deputy Assistant Secretary of Defense for Developmental Test and Evaluation. We also met with officials from the Office of the Director, Cost Assessment and Program Evaluation; and the Office of the Director, Operational Test and Evaluation.

We also met with officials and reviewed documents from the military services, including the Department of the Air Force, Department of the Army, and the Department of the Navy, including the service acquisition executives. Within each military service, we also met with officials from functional offices including the (1) Air Force Director of Test and Evaluation; (2) Deputy Assistant Secretary of the Air Force for Science, Technology, and Engineering; (3) Deputy Assistant Secretary of the Navy for Research, Development, Test & Evaluation; (4) Deputy Under Secretary of the Army for Test and Evaluation; and the (5) Director of Army System of Systems Engineering and Integration.

In order to capture the views of officials at the different levels involved in the milestone decision process, we also sent a questionnaire to program executive officers with responsibility for defense acquisition programs, all 3 military service acquisition executives, and 13 Office of the Secretary of Defense organizations identified as key stakeholders in the acquisition milestone decision process. We received responses from 25 program executive officers, all 3 military service acquisition executives, and 12 Office of the Secretary of Defense organizations.

We analyzed the data provided by program managers, program executive officers, military service acquisition executives, and Office of the Secretary of Defense officials to determine the overall value of the milestone information requirements and the overall value of the review of the information requirements to the various groups involved in the milestone decision process. Our results are not intended to be generalizable and as such, results from nongeneralizable samples cannot be used to make inferences about all major defense acquisition programs.

Further, we reviewed relevant statutes, DOD policies, and military service guidance for DOD acquisitions.

To examine alternative processes used by some DOD programs, we reviewed the processes used by some current classified programs. We also reviewed reports and studies done by acquisition experts that examined past programs, including the F-117 and F-16, which successfully used a more streamlined process. In addition, we examined acquisition policies that were in place at the time of these programs development.

To identify practices used by leading commercial firms that might be used to improve DOD's acquisition process, we visited five companies to learn more about how they manage their product development processes. We selected these companies, in part, based on our previous GAO best practices work. These companies are recognized leaders in their industry, and are recognized for having successful, proven product development processes.

The companies selected for use in our review include:

- **Boeing**, a leading aerospace company and a manufacturer of commercial jetliners. We met with officials and discussed their

practices for managing the development of commercial aircraft in Seattle, Washington.

- **Caterpillar Inc. (Caterpillar),** a leading manufacturer of construction and mining equipment, diesel and natural gas engines, and industrial gas turbines. We met with officials in Peoria, Illinois.
- **Cummins Inc. (Cummins),** a leading manufacturer of diesel and natural gas-powered engines for on-highway and off-highway use. We met with officials in Columbus, Indiana.
- **Honda of America Manufacturing, Inc. (Honda),** a leading manufacturer of motorcycles and automobiles. We met with officials at their location in Raymond, Ohio.
- **Motorola Solutions**, a leading manufacturer of data capture devices such as professional and commercial radios and communication systems. We met with officials in Schaumburg, Illinois.

At each company we discussed the new product development process from concept to full production; the methods, tools, measures and metrics used by leadership in monitoring and overseeing product development execution progress; and roles and responsibilities of the product development manager.

We conducted this performance audit from January 2014 to February 2015 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: Information Requirements for Major Defense Acquisition Programs at Milestone B and C Identified in Interim DOD Instruction 5000.02

Enclosure 1 of the Interim Department of Defense (DOD) Instruction 5000.02 identifies several information requirements which must be documented for the milestones of the DOD acquisition process, as well as the source of each requirement in statute, a DOD directive, instruction, and/or manual, or a regulation. Not all of the information requirements are applicable at every milestone and not all of the requirements equate to a separate document.

Our review focused on documentation related to 49 statutory and policy information requirements[1] that is expected to be completed at Milestone B,[2] most of which is also expected at Milestone C. Of the 49 requirements applicable at Milestone B, 44 are also applicable at Milestone C. Two other information requirements are only applicable at Milestone C and not at Milestone B. We did not include these two requirements in our review, but they are listed below for a total of 51 requirements. The number of documents a program has to complete will vary depending on the type of program. For example, space programs have to complete an Orbital Debris Mitigation Risk Report, which is not required for non-space programs, and some requirements apply only to programs acquiring information technology.

[1] For purposes of this report, information required by statute are matters which the Interim DODI 5000.02 identifies a statute as the source of the requirement, and information required by policy are matters which the Interim DODI 5000.02 identifies a DOD directive, instruction, and/or manual, or a regulation as the source of the requirement. See Interim Department of Defense Instruction 5000.02, Operation of the Defense Acquisition System Encl. 1, Table 2 (Nov. 25, 2013).

[2] We included in our count of 49 information requirements applicable at Milestone B any requirements applicable at the Development Request for Proposal Release decision point, an event prior to Milestone B.

Information requirement	Description
2366a/b Certification Memorandum	Memorandum reflecting the milestone decision authority's certification, prior to granting milestone approval, as to certain program matters.
Acquisition Decision Memorandum	Documents the decisions and direction resulting from each milestone and other major decision point reviews.
Acquisition Program Baseline	Agreement between the milestone decision authority and the program manager and his/her acquisition chain of command that will be used for tracking and reporting for the life of a program or program increment; contains schedule, performance, and cost parameters that are the basis for satisfying an identified mission need.
Acquisition Strategy	Describes the overall strategy for managing an acquisition program, including the program manager's plan to achieve programmatic goals and summarizes the program planning and resulting program structure.
Affordability Analysis	Provides a design constraint on the product DOD will build, procure, and sustain based upon the budgets DOD expects to have for the product over its life cycle.
Analysis of Alternatives	Summarizes an analytical comparison of the operational effectiveness, suitability, and life-cycle cost (or total ownership cost, if applicable) of alternatives that satisfy established capability needs.
Bandwidth Requirements Review	Documents the bandwidth requirements needed to support a program and how they will be met.
Benefit Analysis and Determination	For bundled acquisitions, an analysis to determine the relative benefit to the government among two or more alternative procurement strategies and a determination of whether consolidation of the requirements is necessary and justified.
Business Process Reengineering	Describes how to redesign the way work is done to improve performance in meeting the organization's mission while reducing costs.
Capability Development Document	Defines authoritative, measurable, and testable parameters across one or more increments of a material capability solution, by setting key performance parameters, key system attributes, and additional performance attributes necessary for the acquisition community to design and propose systems and to establish programmatic baselines.
Capability Production Document	Provides authoritative, testable capability requirements, in terms of key performance parameters, key system attributes, and additional performance attributes, for the production and deployment phase of an acquisition program.
Clinger-Cohen Act Compliance	For programs that acquire IT, documents compliance with the various requirements of the Clinger-Cohen Act of 1996, subtitle III of title 40, U.S. Code.
Cybersecurity Strategy	For programs containing information technology, documents a program's plan for ensuring cybersecurity.
Consideration of Technology Issues	Promotes, monitors, and evaluates programs for the communication and exchange of technological data among defense research facilities, combatant commands, and other organizations involved in developing technological requirements for new items.
Contract-Type Determination	Documents the contract type selected by the milestone decision authority for a major defense acquisition program that is consistent with the level of program risk.
Cooperative Opportunities	Ensures that opportunities to conduct cooperative research and development projects are considered at an early point during the formal development review process by indicating whether or not a project similar to the one under consideration by DOD is in development or production by another country or organization.

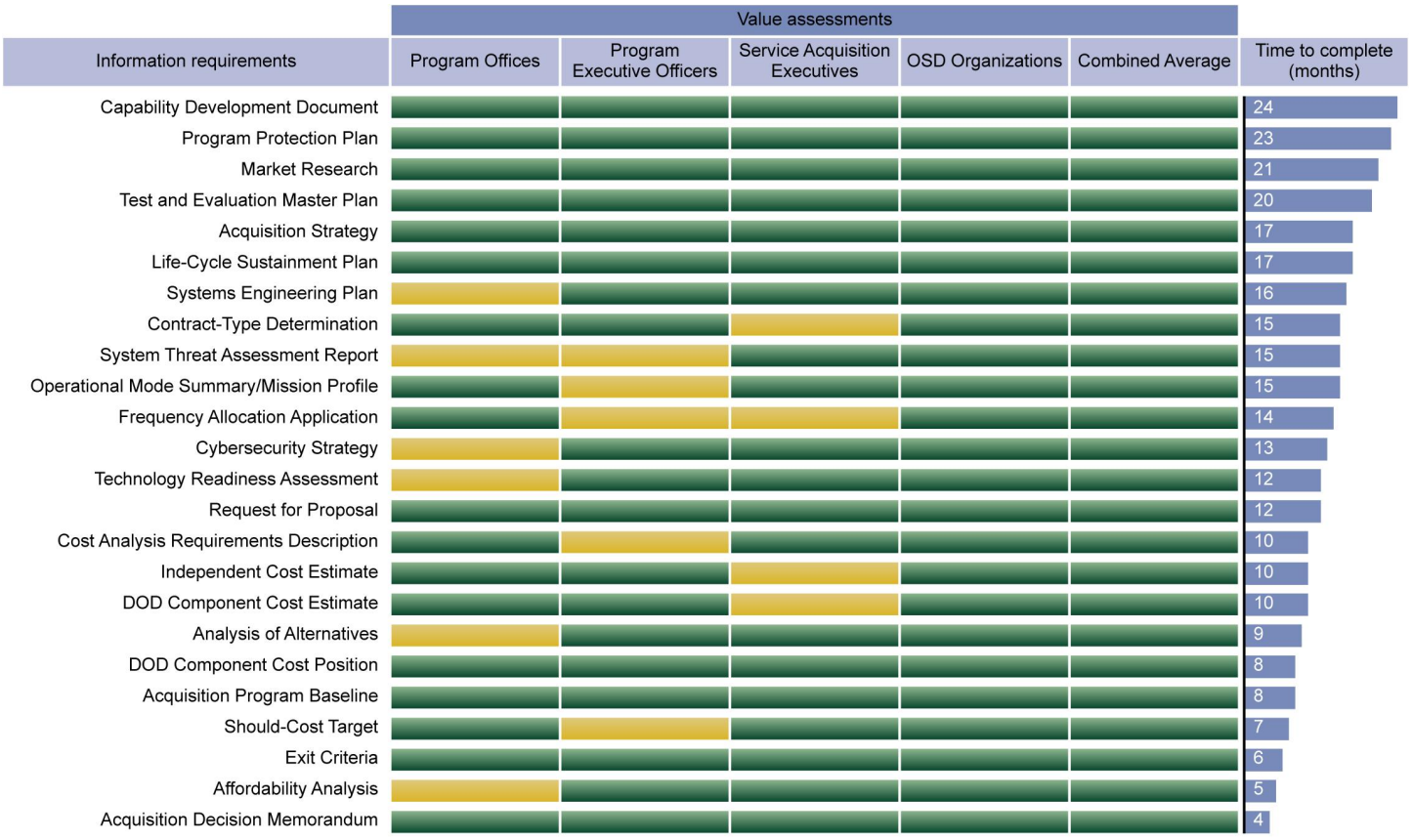
Information requirement	Description
Core Logistics Determination/Core Logistics and Sustaining Workloads Estimate	Determination of whether the weapon system or military equipment being acquired is necessary to enable the armed forces to fulfill the strategic and contingency plans prepared by the Chairman of the Joint Chiefs of Staff. If the determination is positive, then an estimate of those core capability requirements and sustaining workloads are provided, organized by work breakdown structure and expressed in direct labor hours.
Corrosion Prevention Control Plan	Documents the plan to prevent and control corrosion from impacting the availability, cost, and safety of military equipment.
Cost Analysis Requirements Description	Describes formally an acquisition program for purposes of preparing both the DOD Component Cost Estimate and the cost assessment and program evaluation independent cost estimate.
Development Request for Proposal Release Cost Assessment	Cost analysis to support the Development Request for Proposal Release (RFP) decision point, which will vary depending on the program and information needed to support the decision to release the RFP.
DOD Component Cost Estimate	Cost analysis conducted by the service cost agency.
DOD Component Cost Position	Cost position established by the DOD component that is derived from the DOD Component Cost Estimate and the program office estimate per DOD component policy, and signed by the DOD component Deputy Assistant Secretary for Cost and Economics.
Exit Criteria	System-specific criteria which normally track progress in important technical, schedule, or management risk areas.
Frequency Allocation Application (DD Form 1494)	For systems that use the electromagnetic spectrum while operating in the United States and its possessions, a certification by the National Telecommunications and Information Administration (NTIA) that a candidate system conforms to the spectrum allocation scheme of the United States and its possessions.
Full Funding Certification Memorandum	Certifies that the DOD component will fully fund the program to the DOD Component Cost Position (CCP) in the current Future Years Defense Program (FYDP), or will commit to full funding of the CCP during the preparation of the next FYDP, with identification of specific offsets to address any funding shortfalls that may exist in the current FYDP.
General Equipment Valuation	Program description identifying contract-deliverable military equipment, non-military equipment, and other deliverable items and plans to ensure that all deliverable equipment requiring capitalization is serially identified and valued.
Independent Cost Estimate	Cost estimate covering the full life-cycle cost of a program including all costs of development, procurement, military construction, and operations and support, without regard to funding source or management control, prepared or approved by the Director of Cost Assessment and Program Evaluation.
Independent Logistics Assessment	Analysis of a program's supportability planning that assesses the program office's product support strategy and how this strategy leads to successfully operating a system at an affordable cost.
Industrial Base Capabilities Considerations	Analysis that the skills and knowledge, processes, facilities, and equipment necessary to design, develop, manufacture, repair, and support a program are available and affordable.
Information Support Plan	Documents a program's information-related needs in support of the operational and functional capabilities that the program either delivers or contributes.
Intellectual Property Strategy	Documents a program's strategy to identify and manage the full spectrum of intellectual property (IP) and related issues throughout the program's life-cycle describing, at a minimum, how the program will assess program needs for, and acquire competitively whenever possible, the IP deliverables and associated license rights necessary for competitive and affordable acquisition and sustainment over the product life-cycle.

Information requirement	Description
Item Unique Identification Implementation Plan	Documents the program manager's and product support manager's plan for implementing item unique identification (IUID) as an integral activity within MIL-STD-130N item identification processes to identify and track applicable major end items and configuration-controlled items.
Life-Cycle Mission Data Plan	For programs that are dependent on intelligence mission data, defines specific intelligence mission data requirements for a program and becomes more detailed as the system progresses towards initial operational capability.
Life-Cycle Sustainment Plan	A living document describing a program manager's approach and resources necessary to develop and integrate sustainment requirements into the systems design, development, testing and evaluation, fielding and operations.
Low-Rate Initial Production Quantity	Documents the quantity of the product needed to provide production representative test articles for operational test and evaluation and efficient ramp up to full production.
Manpower Estimate	Provides out-year projections of active-duty and reserve end-strength, civilian full-time equivalents, and contractor support work-years for a major defense acquisition program.
Market Research	Provides information on, among other things, whether there are commercial off-the-shelf products that meet the defined requirements in the business case, could be modified to meet requirements, or could meet requirements when it is necessary to modify those requirements to a reasonable extent.
Operational Mode Summary/Mission Profile	Describes the operational tasks, events, durations, frequency and environment in which the materiel solution is expected to perform each mission and each phase of the mission.
Orbital Debris Mitigation Risk Report (Space Programs)	Assessment of debris generation risk during launch, on-orbit operations, and end-of-life disposal, and compliance with the U.S. Government Orbital Debris Mitigation Standard Practices.
Program Protection Plan	Documents the comprehensive approach to system security engineering analysis and the associated results to ensure that programs adequately protect their technology, components, and information throughout the acquisition process during design, development, delivery and sustainment.
Programmatic Environment, Safety, and Occupational Health Evaluation and National Environmental Policy Act/Executive Order 12114 Compliance Schedule	Describes the strategy for integrating environment, safety, and occupational health considerations into the systems engineering process, how they are managed, and how they are integrated with human systems integration efforts.
Replaced System Sustainment Plan	For a program that will replace another program, documents the budget estimates required to sustain the existing system until the new system assumes responsibility; the milestone schedule for developing and fielding the new system; and an analysis of the ability of the existing system to maintain mission capability against relevant threats.
Request for Proposal	Communicates government requirements to prospective contractors and solicits proposals; defines the government's expectations in terms of the performance and functional specifications, program planning, program process, risks, and assumptions; and reflects the program's plans articulated in the draft Acquisition Strategy and other draft, key planning documents such as the Systems Engineering Plan, Program Protection Plan, Test and Evaluation Master Plan, and Life-Cycle Sustainment Plan.
Should-Cost Target	Documents stretch goals for costs that DOD expects its leaders to do their best to reach, which are based on real opportunities, but challenging to execute.
Small Business Innovation Research/Small Business Technology Transfer Program Technologies	Documents the program manager's plan for the use of small business innovation research and small business technology transfer program technologies and associated planned funding profile.

Information requirement	Description
Spectrum Supportability Risk Assessment	For spectrum-dependent systems, identifies and mitigates regulatory, technical, and operational spectrum supportability risks.
Systems Engineering Plan	Documents key technical risks, processes, resources, metrics, systems engineering products, and completed and scheduled system engineering activities to help the program manager develop, communicate, and manage the overall systems engineering approach that guides all technical activities of a program.
System Threat Assessment Report	Addresses projected adversary capabilities at system initial operating capability (IOC) and IOC plus 10 years; should be system specific, to the degree that the system definition is available at the time the assessment is being prepared.
Technology Readiness Assessment	Assesses the maturity of, and the risk associated with, critical technologies, to assist in the determination of whether the technologies of a program have acceptable levels of risk, based in part on the degree to which they have been demonstrated, and to support risk-mitigation plans.
Termination Liability Estimate	Estimate of DOD's potential liability if it terminates a contract for a program; the estimate must include how such termination liability is likely to increase or decrease over the period of performance.
Test and Evaluation Master Plan	Documents the overall structure and objectives of the test and evaluation program. It provides a framework within which to generate detailed test and evaluation plans and documents schedule and resource implications associated with the test and evaluation program.

Source: DOD. | GAO-15-192

Appendix III: Value of Information Requirements Assessed by DOD Organizational Levels



Source: GAO analysis of DOD data. | GAO-15-192

Part 1 of 2

	Value assessments					
Summary of value assessments for information requirements	Program Offices	Program Executive Officers	Service Acquisition Executives	OSD Organizations	Combined Average	Time to complete (months)
Number of high value	21	20	22	36	24	13
Number of moderate value	22	23	13	13	20	12
Number of less than moderate value	6	6	14	0	5	12

High value
Moderate value
Less than moderate value

CLSWE	Core Logistics and Sustaining Workloads Estimate
PESHE	Programmatic Environment, Safety, and Occupational Health Evaluation
NEPA/EO	National Environmental Policy Act/Executive Order 12114
RFP	Request for Proposal
SBIR/STTR	Small Business Innovation Research/Small Business Technology Transfer

Source: GAO analysis of DOD data. | GAO-15-192

Part 2 of 2

Appendix IV: Comments from the Department of Defense

ASSISTANT SECRETARY OF DEFENSE
3015 DEFENSE PENTAGON
WASHINGTON, DC 20301-3015

ACQUISITION

FEB 11 2015

Mr. Michael J. Sullivan
Director, Acquisition and Sourcing Management
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Mr. Sullivan:

This is the Department of Defense (DoD) response to the GAO Draft Report, GAO-15-192, "ACQUISITION REFORM: DoD Should Streamline Its Decision-Making Process for Weapon Systems to Reduce Inefficiencies," dated January 13, 2015 (GAO Code 121175). Detailed comments on the report recommendations are enclosed.

Sincerely,

Katharina McFarland

Enclosure:
As stated

GAO Draft Report Dated JANUARY 13, 2015
GAO-15-192 (GAO CODE 121175)

"ACQUISITION REFORM: DOD SHOULD STREAMLINE ITS DECISION-MAKING PROCESS FOR WEAPON SYSTEMS TO REDUCE INEFFICIENCIES"

DEPARTMENT OF DEFENSE COMMENTS TO THE GAO RECOMMENDATION

RECOMMENDATION 1: The GAO recommends that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology and Logistics in collaboration with the military service acquisition executives, program executive officers, and program managers take the following action:

In the near term, identify and potentially eliminate (1) reviews associated with information requirements, with a specific focus on reducing review levels, that do not add value, and (2) information requirements that do not add value and are no longer needed. For the remaining reviews and information requirements, evaluate and determine different approaches, such as consolidating information requirements and delegating approval authority, which could provide for a more efficient milestone process. This effort should also include a reexamination of the reason(s) why an information requirement was originally considered necessary in order to determine what information is still needed and if a more efficient approach could be used. Findings and survey responses included in this report could be used as a starting point for this examination.

DoD RESPONSE: DoD concurs with the recommendation. Through the Department's Better Buying Power (BBP) initiative, we introduced several parallel efforts to streamline documentation requirements and staff reviews and to emphasize greater responsibility, authority, and accountability throughout the acquisition chain of command. These efforts are intended to reduce and eliminate unproductive processes and bureaucracy. Additionally, the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)) has provided to Congress a set of legislative proposals that seek to reduce additional reporting requirements imposed on the defense acquisition workforce.

RECOMMENDATION 2: The GAO recommends that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology and Logistics in collaboration with the military service acquisition executives, program executive officers, and program managers take the following action:

As a longer term effort, select several current or new major defense acquisition programs to pilot, on a broader scale, different approaches for streamlining the entire milestone decision process, with the results evaluated and reported for potential wider use. The pilot programs should consider

- Defining the appropriate information needed to support milestone decisions while still ensuring program accountability and oversight. The information should be based on the business case principles needed for well informed milestone decisions including well defined requirements, reasonable life-cycle cost estimates, and a knowledge-based acquisition plan.

- Developing an efficient process for providing this information to the milestone decision authority by (1) minimizing any reviews between the program office and the different functional staff offices within each chain of command level and (2) establishing frequent, regular interaction between the program office and milestone decision makers, in lieu of documentation reviews, to help expedite the process.

DoD RESPONSE: DoD concurs with the recommendation. USD(AT&L) pursued several initiatives to reduce frequency of OSD-level reviews under Better Buying Power 2.0. While the effort has yet to be fully implemented, we are working to identify appropriate programs to pilot a streamlined acquisition approach. We will also continue to pursue streamlining documentation requirements and staff reviews under BBP 3.0 in order to eliminate unproductive processes and bureaucracy.

2

Appendix V: GAO Contact and Acknowledgments

GAO Contact

Michael J. Sullivan, (202) 512-4841 or sullivanm@gao.gov.

Staff Acknowledgments

In addition to the contact named above, Cheryl K. Andrew, Assistant Director; Don M. Springman, Analyst-in-Charge; Julie C. Hadley; Matthew B. Lea; Brian T. Smith; Kristine R. Hassinger; Kenneth E. Patton; Laura S. Greifner; Oziel A. Trevino; and Nathaniel O. Vaught made key contributions to this report.

Appendix VI: Accessible Data

Table for Figure 3: Average Time 24 DOD Programs Needed to Complete Information Requirements Grouped by the Value Acquisition Officials Considered Milestone B and C Requirements

	Time to Document Information Requirement	Time to Review Documentation
	Months to complete	
High value		
Capability Development Document	16.2	7.3
Program Protection Plan	12.7	10.6
Market Research	12.5	8.5
Test and Evaluation Master Plan	11.7	8.0
Acquisition Strategy	8.0	9.4
Life-Cycle Sustainment Plan	8.8	8.0
Systems Engineering Plan	9.8	6.4
Contract-Type Determination	6.8	8.3
System Threat Assessment Report	8.4	6.2
Operational Mode Summary/Mission Profile	8.5	6.0
Frequency Allocation Application	5.6	8.3
Cybersecurity Strategy	6.9	6.1
Technology Readiness Assessment	7.9	4.6
Request for Proposal	8.7	3.8
Cost Analysis Requirements Description	6.2	4.2
Independent Cost Estimate	6.1	3.9
DOD Component Cost Estimate	5.6	4.1
Analysis of Alternatives	5.2	3.7
DOD Component Cost Position	4.3	3.7
Acquisition Program Baseline	3.6	4.0
Should-Cost Target	5.3	2.0
Exit Criteria	1.8	4.4
Affordability Analysis	3.6	1.9
Acquisition Decision Memorandum	2.1	2.3
Moderate value		
Consideration of Technology Issues	12.5	10.0
Termination Liability Estimate	12.5	7.8
Manpower Estimate	8.6	5.3
Cooperative Opportunities	7.7	6.1
SBIR/STTR Program Technologies	7.5	6.0

	Time to Document Information Requirement	Time to Review Documentation
Bandwidth Requirements Review	7.3	6.0
Spectrum Supportability Risk Assessment	7.9	5.3
Information Support Plan	6.6	6.1
Low-Rate Initial Production Quantity	6.2	6.3
Core Logistics Determination/CLSWE	6.6	5.8
Intellectual Property Strategy	5.6	6.4
Industrial Base Capabilities Considerations	6.9	4.5
PESHE and NEPA/EO Compliance Schedule	7.0	4.4
Independent Logistics Assessment	6.0	4.6
Life-Cycle Mission Data Plan	3.8	2.5
2366a/b Certification Memorandum	2.8	2.9
Development RFP Release Cost Assessment	2.0	2.0
Full Funding Certification Memorandum	2.2	1.6
Orbital Debris Mitigation Risk Report	0.0	0.0
Business Process Reengineering	0.0	0.0
Less than moderate value		
Benefit Analysis and Determination	8.7	6.7
Corrosion Prevention Control Plan	7.1	6.9
Item Unique Identification Implementation Plan	4.9	5.2
Clinger-Cohen Act Compliance	5.2	4.9
Replaced System Sustainment Plan	0.0	10.0

Abbreviations

CLSWE	Core Logistics and Sustaining Workloads Estimate
PESHE	Programmatic, Environment, Safety, and Occupational Health Evaluation
NEPA/EO	National Environmental Policy Act/Executive Order 12114
RFP	Request for Proposal
SBIR/STTR	Small Business Innovation Research/Small Business Technology Transfer

Table for Appendix 3: Value of Information Requirements Assessed by DOD Organizational Levels

Information requirements	Value assessments					Time to complete (months)
	Program Offices	Program Executive Officers	Service Acquisition Executives	OSD Organizations	Combined Average	
Capability Development Document	High	High	High	High	High	24
Program Protection Plan	High	High	High	High	High	23
Market Research	High	High	High	High	High	21
Test and Evaluation Master Plan	High	High	High	High	High	20
Acquisition Strategy	High	High	High	High	High	17
Life-Cycle Sustainment Plan	High	High	High	High	High	17
Systems Engineering Plan	Moderate	High	High	High	High	16
Contract-Type Determination	High	High	Moderate	High	High	15
System Threat Assessment Report	Moderate	Moderate	High	High	High	15
Operational Mode Summary/Mission Profile	High	Moderate	High	High	High	15
Frequency Allocation Application	High	Moderate	Moderate	High	High	14
Cybersecurity Strategy	Moderate	High	High	High	High	13
Technology Readiness Assessment	Moderate	High	High	High	High	12
Request for Proposal	High	High	High	High	High	12
Cost Analysis Requirements Description	High	Moderate	High	High	High	10
Independent Cost Estimate	High	High	Moderate	High	High	10
DOD Component Cost Estimate	High	High	Moderate	High	High	10
Analysis of Alternatives	Moderate	High	High	High	High	9
DOD Component Cost Position	High	High	High	High	High	8
Acquisition Program Baseline	High	High	High	High	High	8
Should-Cost Target	High	Moderate	High	High	High	7
Exit Criteria	High	High	High	High	High	6
Affordability Analysis	Moderate	High	High	High	High	5
Acquisition Decision Memorandum	High	High	High	High	High	4
Consideration of Technology Issues	Moderate	Moderate	Moderate	Moderate	Moderate	23
Termination Liability Estimate	Moderate	Moderate	Less than moderate	Moderate	Moderate	20
Manpower Estimate	Moderate	Moderate	Less than moderate	High	Moderate	14
Cooperative Opportunities	Less than moderate	Moderate	Less than moderate	High	Moderate	14

Information requirements	Value assessments					Time to complete (months)
	Program Offices	Program Executive Officers	Service Acquisition Executives	OSD Organizations	Combined Average	
SBIR/STTR Program Technologies	Moderate	Moderate	Moderate	Moderate	Moderate	14
Bandwidth Requirements Review	Moderate	Moderate	Less than moderate	Moderate	Moderate	13
Spectrum Supportability Risk Assessment	Moderate	Moderate	High	Moderate	Moderate	13
Information Support Plan	Moderate	Moderate	Moderate	Moderate	Moderate	13
Low-Rate Initial Production Quantity	High	Moderate	Moderate	High	Moderate	12
Core Logistics Determination/CLSWE	Moderate	Moderate	Less than moderate	High	Moderate	12
Intellectual Property Strategy	Moderate	Moderate	Moderate	High	Moderate	12
Industrial Base Capabilities Considerations	Less than moderate	Moderate	Moderate	High	Moderate	11
PESHE and NEPA/EO Compliance Schedule	Moderate	Moderate	Moderate	Moderate	Moderate	11
Independent Logistics Assessment	Moderate	Moderate	Moderate	Moderate	Moderate	11
Life-Cycle Mission Data Plan	Moderate	Less than moderate	Less than moderate	High	Moderate	6
2366a/b Certification Memorandum	Less than moderate	Moderate	Less than moderate	High	Moderate	6
Development RFP Release Cost Assessment	Moderate	Moderate	High	High	Moderate	4
Full Funding Certification Memorandum	High	Moderate	Moderate	High	Moderate	4
Orbital Debris Mitigation Risk Report	High	High	Less than moderate	High	Moderate	*No data provided*
Business Process Reengineering	Moderate	Less than moderate	Moderate	High	Moderate	*No data provided*
Benefit Analysis and Determination	Less than moderate	Moderate	Less than moderate	Moderate	Less than moderate	15
Corrosion Prevention Control Plan	Moderate	Less than moderate	Less than moderate	Moderate	Less than moderate	14
Item Unique Identification Implementation Plan	Less than moderate	Less than moderate	Less than moderate	Moderate	Less than moderate	10
Clinger-Cohen Act Compliance	Less than moderate	Less than moderate	Less than moderate	Moderate	Less than moderate	10
Replaced System Sustainment Plan	Moderate	Less than moderate	Less than moderate	Moderate	Less than moderate	10

Summary of value assessments for information requirements	Value assessments					Time to complete (months)
	Program Offices	Program Executive Officers	Service Acquisition Executives	OSD Organizations	Combined Average	
Number of high value	21	20	22	36	24	13
Number of moderate value	22	23	13	13	20	12
Number of less than moderate value	6	6	14	0	5	12

Abbreviations

CLSWE	Core Logistics and Sustaining Workloads Estimate
PESHE	Programmatic, Environment, Safety, and Occupational Health Evaluation
NEPA/EO	National Environmental Policy Act/Executive Order 12114
RFP	Request for Proposal
SBIR/STTR	Small Business Innovation Research/Small Business Technology Transfer

Source: GAO analysis of DOD data. GAO-15-192.

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