

**GAO**

Report to the Subcommittee on  
Readiness, Committee on Armed  
Services, House of Representatives

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May 2012

# DEFENSE ACQUISITIONS

## Further Action Needed to Improve DOD's Insight and Management of Long- term Maintenance Contracts



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Highlights of [GAO-12-558](#), a report to Subcommittee on Readiness, Committee on Armed Services, House of Representatives

## Why GAO Did This Study

DOD spends billions annually to maintain its weapon systems and, at times, uses long-term maintenance contracts with a potential period of performance of 5 years or more. These contracts can encourage contractors to invest in new facilities, equipment, and processes, but may hinder DOD's ability to incentivize contractors' performance and control costs, especially in the absence of a competitive environment or if DOD does not acquire access to technical data that can enable DOD to select an alternative maintenance provider.

GAO was asked to evaluate (1) the extent to which DOD uses long-term maintenance contracts, (2) DOD's ability to select alternative maintenance providers, and (3) how these contracts have been structured to incentivize performance and manage cost. GAO reviewed a nongeneralizable sample of 10 long-term contracts to illustrate different maintenance approaches. GAO interviewed program officials and reviewed contract documentation. GAO also reviewed information on eight programs recently reviewed by DOD to determine how these programs addressed technical data needs.

## What GAO Recommends

GAO recommends that DOD collect information on the extent to which DOD uses long-term maintenance contracts and develop lessons learned regarding the use of incentives and cost-control tools. DOD concurred with each of the recommendations and indicated that it would develop methodologies to implement them.

View [GAO-12-558](#). For more information, contact Belva M. Martin at (202) 512-4841 or [martinb@gao.gov](mailto:martinb@gao.gov) or Cary Russell at (202) 512-5431 or [russellc@gao.gov](mailto:russellc@gao.gov).

May 2012

## DEFENSE ACQUISITIONS

### Further Action Needed to Improve DOD's Insight and Management of Long-term Maintenance Contracts

## What GAO Found

At the departmental level, neither the Department of Defense (DOD) nor the individual military departments know the extent to which weapon system programs rely on long-term maintenance contracts. DOD policy requires DOD and the military departments to approve acquisition strategies and lifecycle sustainment plans, which include information on contractor support, but DOD officials reported that they do not collect information on the use of long-term contracts. DOD's limited visibility over long-term maintenance contracts reflects broader DOD challenges with managing services acquisition. GAO's past work has identified the need for DOD to obtain better data on its contracted services to enable it to make more strategic decisions. DOD is considering a number of policy- and data-related initiatives that could improve its knowledge of these contracts, but these efforts are in the early stages of development.

Decisions made early in the acquisition process can limit DOD's ability to select alternative maintenance providers over the life cycle of a weapon system program. Program officials believed that DOD had the ability to select alternative service providers for half of the contracts GAO reviewed, as DOD either had sufficient technical data or there was an existing competitive environment. DOD officials believed the lack of technical data, funding, or expertise would hinder them from selecting alternative service providers on the other contracts GAO reviewed. Recent legislation and DOD's 2010 efficiency initiatives emphasize the importance of technical data considerations. GAO found that eight weapon systems that underwent DOD acquisition-related reviews between October 2010 and October 2011 considered technical data issues, but not all have determined the extent to which they will acquire these data or the cost to do so.

Once the decision is made to use long-term contracts, DOD faces choices on how to best incentivize contractor performance and manage costs. GAO found that the 10 long-term maintenance contracts reviewed varied in terms of the incentives employed and tools used to gain insight into contractor costs. For example, GAO found that all 5 contracts with the longest durations, potentially ranging from 9 to 22 years, used monetary incentives such as award or incentive fees, or contract term incentives that can extend the life of the contract by several years. However, DOD and program officials expressed some concerns about the lack of insight on contractors' costs. In two cases, program offices established fixed prices for the entire potential length of the 9- and 15-year contracts without the ability to renegotiate prices or obtain incurred cost data. In comparison to the contracts with the longest durations, the five contracts GAO reviewed with maximum lengths of 5 years made less use of incentives or cost-control tools and generally did not have the ability to renegotiate contract prices, but program officials believed that the shorter-term nature of the contracts mitigated some of their risks. DOD does not collect information concerning the effectiveness of the various incentives or cost control tools used on long-term maintenance contracts, but it has identified efforts made by individual programs to improve acquisition of maintenance services. Developing lessons learned on what incentives and cost-control tools work best would help inform future acquisition strategies and reduce risk.

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## Abbreviations

USD(AT&L)	Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics
JSTARS	Joint Surveillance Target Attack Radar System
DOD	Department of Defense
FPDS-NG	Federal Procurement Data System-Next Generation

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**United States Government Accountability Office**  
Washington, DC 20548

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May 31, 2012

The Honorable J. Randy Forbes  
Chairman  
The Honorable Madeleine Z. Bordallo  
Ranking Member  
Subcommittee on Readiness  
Committee on Armed Services  
House of Representatives

The Department of Defense (DOD) spends billions of dollars each year on operating and support costs for weapon systems, including for maintenance, engineering support, and personnel. Such costs historically account for approximately 70 percent of a weapon system's total life-cycle cost.<sup>1</sup> Among such expenses are those associated with depot-level repair of weapon systems, which includes overhaul, upgrades, and rebuilding of parts and assemblies. According to a recent DOD report, the department spent approximately \$33 billion in fiscal year 2010 to maintain its weapon systems through both government and commercial providers. In some instances, DOD may determine that depot-level maintenance will be performed through a contractor using long-term contracts for maintenance services that can span more than a decade. DOD officials note that a long-term contract can encourage contractors to invest in new facilities, equipment, and processes, but may also hinder the government's ability to appropriately incentivize the contractor's performance and control costs, especially in the absence of a competitive

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<sup>1</sup>According to DOD officials, operating and support costs generally range from 60 to 80 percent of a weapon system's total costs, depending on the weapon system type. According to DOD, product support encompasses materiel management, distribution, technical data management, maintenance, training, cataloging, configuration management, engineering support, repair parts management, failure reporting and analysis, and reliability growth.

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environment or if the government does not acquire access to the technical data needed to maintain the weapon system.<sup>2</sup>

In May 2011, GAO reported that DOD continues to face challenges that could undermine competition of maintenance contracts, including shortcomings in how programs' technical data rights requirements necessary for competition are determined.<sup>3</sup> Additionally, GAO has previously reported on DOD's increased reliance on contractors for maintenance and other logistics support for its weapon systems, management challenges associated with the acquisition of major weapon systems, and the department's lack of insight into costs associated with depot maintenance and other weapon support contracts.<sup>4</sup> Consequently, given these issues and the long-term nature of certain maintenance contracts, you requested that we review various aspects of DOD's use of long-term contracts for maintaining its weapon systems. To address this request, we evaluated (1) the extent to which DOD uses long-term maintenance contracts to support major weapon system programs, (2) DOD's ability to select alternative maintenance services providers for its major weapon system programs, and (3) how long-term maintenance contracts have been structured to incentivize contractors' performance and manage contractor costs.

For the purposes of this report, we defined long-term maintenance contracts as those with a potential period of performance of five years or

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<sup>2</sup>Defense Federal Acquisition Regulation Supplement contract clause 252.227-7013 defines technical data as "recorded information, regardless of the form or method of the recording of a scientific or technical nature (including computer software documentation)... [but not including] computer software or data incidental to contract administration, such as financial and/or management information." Technical data for weapon systems includes drawings, specifications, standards, and other details necessary to ensure the adequacy of item performance, as well as manuals that contain instructions for installation, operation, maintenance, and other actions needed to support weapon systems. GAO, *Defense Acquisition: DOD Should Clarify Requirements for Assessing and Documenting Technical-Data Needs*, [GAO-11-469](#) (Washington, D.C.: May 11, 2011).

<sup>3</sup>[GAO-11-469](#).

<sup>4</sup>GAO, *Defense Management: DOD Needs to Reexamine its Extensive Reliance on Contractors and Continue to Improve Management and Oversight*, [GAO-08-572T](#) (Washington, D.C.: Mar. 11, 2008); *Defense Acquisitions: Assessments of Selected Weapon Programs*, [GAO-10-388SP](#) (Washington, D.C.: Mar. 30, 2010); and *Defense Logistics: Improvements Needed to Enhance Oversight of Estimated Long-term Costs for Operating and Supporting Major Weapon Systems*, [GAO-12-340](#) (Washington, D.C.: Feb. 2, 2012).

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more that provide depot-level maintenance services or support performance of maintenance functions. Further, this report focuses on the policies and practices that pertain to major defense acquisition programs.<sup>5</sup> To determine the extent to which DOD uses long-term maintenance contracts, GAO discussed with DOD and military department officials the data DOD collects on maintenance approaches and related contract information and reviewed various reports, including *Distribution of DOD Depot Maintenance Workload*, as well as DOD's analysis of Federal Procurement Data System-Next Generation (FPDS-NG) data related to maintenance services.<sup>6</sup> After determining department-wide data concerning the use of such contracts was unavailable, we worked with military department officials to identify long-term maintenance contracts used by major weapon system programs. Based on these discussions, we reviewed 10 long-term contracts supporting seven major defense acquisition programs. We selected these contracts to represent each of the three military departments and to illustrate different maintenance approaches.

To determine the extent to which major weapon system programs could select alternate maintenance services providers, we reviewed acquisition plans and interviewed program officials to obtain their insight on the factors that would hinder or facilitate the department's ability to do so. We also interviewed program officials and reviewed documents on eight major defense acquisition programs identified by the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)) as having a major acquisition review between October 2010 and October 2011 to determine whether program officials had considered technical data rights in their acquisition strategies or life-cycle sustainment plans submitted as part of these reviews.

To determine how long-term maintenance contracts were structured to incentivize performance and provide insight into costs, we reviewed

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<sup>5</sup>Major defense acquisition programs are those estimated by the Under Secretary of Defense for Acquisition, Technology, and Logistics to require an eventual total expenditure of more than \$365 million for research, development, test, and evaluation, based on fiscal year 2000 constant dollars; \$2.190 billion for procurement in fiscal year 2000 constant dollars; or are designated as a major defense acquisition program by the milestone decision authority.

<sup>6</sup>The Federal Procurement Data System-Next Generation is the federal government's current system for tracking information on contracting actions.

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available acquisition plans, contractual information such as pricing data and price negotiation memoranda, incentive plans, and performance data and interviewed cognizant program officials for the long-term contracts we reviewed. As part of this effort, we reviewed the program offices' use of monetary incentives such as award and incentive fees, performance bonuses, and downward price adjustments, as well as their use of contract term incentives, including award terms and incentive options, which can extend the contract's period of performance. Further, to determine the extent to which programs gained insight into contractor costs, we identified whether they had the ability to renegotiate contract prices, obtained incurred cost data, or used cost-based incentive metrics. Appendix I provides more detailed information on our scope and methodology.

We conducted this performance audit from February 2011 through May 2012 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.

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## Background

DOD spends billions of dollars annually to maintain complex weapon systems including aircraft, ships, ground-based systems, missiles, communications equipment, and other types of electronic equipment that require regular and emergency maintenance to support national security goals. Maintenance of this equipment is divided into three levels corresponding to the extent and complexity of these repairs—depot-level, intermediate, and organizational. DOD defines depot maintenance as the highest level of maintenance and it generally refers to major maintenance and repairs, such as overhauling, upgrading, or rebuilding parts, assemblies, or subassemblies. This level of maintenance can consist of repair to entire weapon systems, major assemblies that comprise a system, or the components that make up those assemblies. Depot maintenance also includes installation of system modifications that extend the operational life of weapon systems. Such repairs and overhauls have long been provided by DOD maintenance personnel, private contractors, or a mixture of the two through public-private partnerships performed at government-owned and private facilities. Intermediate maintenance consists of repair capabilities possessed by operating units and in-theater sustainment organizations that include remove-and-replace operations for subcomponents, local manufacture, and other repair capabilities.

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Organizational maintenance consists of the tasks necessary for day-to-day operation including inspection and servicing.

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## Several Policies Guide Decisions on Maintenance Approaches

The department's overarching acquisition guidance, DOD Directive 5000.01, states that the program manager shall be the single point of accountability for accomplishing program objectives for total life-cycle systems management, including sustainment. DOD Instruction 5000.02, which provides additional DOD guidance for managing and overseeing defense acquisition programs, requires that program managers perform a core logistics analysis to support major acquisition milestone reviews after the technology or system development phase.<sup>7</sup> Such logistics considerations, to include those related to maintenance, are contained within the life-cycle sustainment plan that was, until recently, reviewed as part of the acquisition strategy for major weapon system programs. In April 2011, DOD directed that the life-cycle sustainment plan be reviewed separately from the acquisition strategy and, in September 2011, directed that those sustainment plans associated with certain major weapon systems be approved by the Assistant Secretary of Defense for Logistics and Materiel Readiness at all milestone decision points during weapon system development and at the full-rate production decision.<sup>8</sup> Further, DOD has established a new template for the plans' content to include the extent to which contractor services will support maintenance.

DOD has issued instructions that provide guidance to the military departments and program offices on defining maintenance requirements and approaches. For example, DOD Directive 4151.18 requires that the source of depot-level repair for major weapon systems be determined during the weapon system's development.<sup>9</sup> It also provides instruction on

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<sup>7</sup>Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, Department of Defense Instruction 5000.02, *Operation of the Defense Acquisition System*, December 8, 2008.

<sup>8</sup>Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, *Document Streamlining—Program Strategies and Systems Engineering Plan*, April 20, 2011; and *Document Streamlining—Life-Cycle Sustainment Plan*, September 14, 2011. Specifically, the Assistant Secretary of Defense for Logistics and Materiel Readiness is to review and approve sustainment plans for major defense acquisition programs designated as Acquisition Category ID or those that are designated as being of special interest.

<sup>9</sup>Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, Department of Defense Directive 4151.18, *Maintenance of Military Materiel*, March 31, 2004.

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determining if depot-level maintenance for a weapon system will be performed at a government-owned and government-operated (hereinafter referred to as “organic”) depot, by a private-sector contractor, or some combination of the two. Section 2466 of Title 10 of the U.S. Code places limitations, however, on contracted depot-level maintenance of materiel. The statute provides that not more than 50 percent of funds made available in a fiscal year for depot-level maintenance and repair may be used for contracted services. This is known as the 50/50 requirement. DOD is also required to report annually on past and projected workload allocations. DOD Directive 4151.18 requires that USD(AT&L) monitor compliance with the directive and review the adequacy of DOD maintenance programs and resources. Additionally, it requires DOD components develop tools and management procedures to implement the content of the directive.<sup>10</sup>

Additionally, DOD Instruction 4151.20 provides instruction for determining “core” maintenance requirements as defined in Section 2464 of Title 10 of the U.S. Code.<sup>11</sup> These core requirements are considered essential for the national defense and require that DOD maintain a logistics capability that is government-owned and government-operated to ensure DOD can effectively respond to a mobilization, national defense contingency situations, and other emergency requirements in a timely manner. To ensure that life-cycle sustainment planning is done early in a weapon system’s development phase, the National Defense Authorization Act for fiscal year 2012 revised the assessment of core maintenance requirements and directed DOD to identify such requirements at acquisition milestones.<sup>12</sup>

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## Recent Legislative and DOD Efforts to Enhance Competition

In recent years, Congress and DOD have emphasized the need to maintain competition throughout the life cycle of weapon system programs and improve how the department acquires services. For

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<sup>10</sup>DOD components include the Office of the Secretary of Defense, the military departments, the Chairman of the Joint Chiefs of Staff, the combatant commands, the Office of the Inspector General, the defense agencies, DOD field activities, and all other organizational entities in DOD.

<sup>11</sup>Department of Defense Instruction 4151.20, *Depot Maintenance Core Capabilities Determination Process*, January 5, 2007.

<sup>12</sup>Pub. L. No. 112-81 § 801 (2011).

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example, Congress passed the Weapon System Acquisition Reform Act of 2009, requiring DOD to ensure competition or the option of competition throughout a weapon system program's life cycle, in part, by requiring DOD to consider purchase of complete technical data packages when cost-effective.<sup>13</sup> In May 2011, however, we reported that DOD continues to face challenges that could undermine competition of maintenance contracts, including shortcomings in how programs' technical data rights requirements that are necessary for competition are determined.<sup>14</sup> We recommended, and DOD agreed, that the department should update its acquisition and procurement policies to clarify requirements for documenting technical data requirements and to issue instructions for program managers to use when conducting analyses used to determine technical data rights needs for a weapon program.<sup>15</sup>

More recently, in September 2010, as part of DOD's efficiencies initiative, USD(AT&L) issued guidance intended to improve affordability and cost control, competition, and management of services acquisitions, among other areas.<sup>16</sup> Among the specific actions called for are taking steps to improve insight into contract costs, increasing competition in services contracting, and setting rules for the acquisition of technical data rights. For example, DOD's September 2010 guidance noted that military departments and DOD components will be required to review the length of time that services contracts remain in effect before recompetition, noting that single-award services contracts should be limited to 3 years unless justified by the senior manager for services. It also notes that certain other types of services contracts, such as those for logistics, may not be appropriate for such limits. Subsequently, DOD issued guidance in November 2010 requiring program managers for all acquisition programs

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<sup>13</sup>Pub. L. No. 111-23 § 202(b)(7) (2009).

<sup>14</sup>[GAO-11-469](#).

<sup>15</sup>DOD may obtain different levels of rights to technical data, including unlimited rights, government-purpose rights, and limited rights. If DOD obtains unlimited rights, it may provide the data to anyone for any reason. However, if DOD obtains government-purpose rights, it may provide the data to third-party contractors only for activities in which DOD is involved, including competitive reprocurement but not including commercial purposes. If DOD obtains limited rights, it may only use the data internally and may provide the data to third parties in a limited number of circumstances.

<sup>16</sup>Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, *Better Buying Power: Guidance for Obtaining Greater Efficiency and Productivity in Defense Spending*, September 14, 2010.

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to (1) conduct a business-case analysis that outlines the technical data rights the government will pursue to ensure competition and (2) include the results of this analysis in acquisition strategies at a program's entrance into the engineering and manufacturing development phase of the acquisition.<sup>17</sup>

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## DOD Does Not Know the Extent to Which It Relies on Long-term Maintenance Contracts

At the departmental level, neither DOD nor the individual military departments know the extent to which weapon system programs rely on long-term maintenance contracts. This includes the most basic information—how many of such contracts are currently in use. DOD does not collect or maintain such information during its reviews of acquisition strategies or life-cycle sustainment plans, nor do existing data collection systems provide the type of information needed to do so. Consequently, we worked with the military departments to identify a number of long-term maintenance contracts and selected 10 contracts supporting seven major weapon systems for detailed review. We found that these contracts varied widely in terms of breadth of requirements, potential period of performance, and value. For example, our work found that these contracts could extend up to 22 years if the contractor meets performance criteria and earns award terms. These contracts also constituted a significant investment for the government. Program offices reported obligations of over \$18.4 billion on these 10 contracts through the end of fiscal year 2011. In that fiscal year alone, programs obligated nearly \$1.7 billion on the 10 contracts we reviewed.

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## Lack of Data on Long-Term Maintenance Contracts Reflect Broader DOD Challenges with Managing Services Acquisition

DOD was unable to provide us a list of ongoing long-term maintenance contracts. Further, DOD officials noted that existing reports and data collection systems do not provide the department information on the use of long-term maintenance contracts. For example, USD(AT&L) reports to Congress annually on the percentage of funds expended during the preceding fiscal year for public and private maintenance and repair activities, and project funding requirements for the current and ensuing

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<sup>17</sup>Under Secretary of Defense for Acquisition, Technology, and Logistics, *Implementation Directive for Better Buying Power – Obtaining Greater Efficiency and Productivity in Defense Spending*, November 3, 2010.

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fiscal year.<sup>18</sup> However, USD(AT&L) is not required to include information on the distribution of these contracts among the department's weapon system programs, the total number of contracts used, or the length of performance of these contracts in these reports. Similarly, USD(AT&L) officials noted that while they have used FPDS-NG to perform contract spend analysis for various categories of services, including maintenance services, FPDS-NG does not record the potential period of performance for all contracts, including those that use incentives that may extend the life of the contract. Additionally, while some contract actions associated with maintenance are coded as such in FPDS-NG, our analysis found that other maintenance-related activities may be reported as management support, logistics support, and system engineering services. Further, we found that the Defense Acquisition Management Information Retrieval System, DOD's web-based data system that tracks programmatic information on major defense acquisition programs, did not contain accurate information on what major weapon systems were currently fielded and are being maintained.

DOD's limited visibility over long-term maintenance contracts reflects broader DOD challenges with managing services acquisition. Over the past decade, our work has identified the need for DOD to obtain better data on its contracted services to enable it to make more strategic decisions. For example, in 2006, we reported that DOD's approach to managing services acquisition tended to be reactive and had not fully addressed the key factors for success at either a strategic or transactional level.<sup>19</sup> The strategic level is where the enterprise sets a direction for what it needs, captures knowledge to make informed management decisions, ensures departmentwide goals and objectives are achieved, and assesses the resources it has to achieve desired outcomes. The strategic level sets the context for the transactional level, where the focus is on making sound decisions on individual service acquisition using valid and well-defined requirements, appropriate business arrangements, and adequate management of contractor performance.

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<sup>18</sup>Prior GAO work found systemic weaknesses in DOD's data gathering and reporting processes to support these efforts, which prevents the precise calculation of DOD's funding for public and private-sector depot maintenance and repair workloads, even at the aggregate level. See GAO, *Depot Maintenance: Issues and Options for Reporting on Military Depots*, [GAO-08-761R](#) (Washington, D.C.: May 15, 2008).

<sup>19</sup>GAO, *Defense Acquisitions: Tailored Approach Needed to Improve Service Acquisition Outcomes*, [GAO-07-20](#) (Washington, D.C.: Nov. 9, 2006).

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Our prior work has shown, however, that while DOD obtains insight into individual programs through various program reviews, DOD does not collect or maintain that information to inform strategic decisions. For example:

- In response to congressional direction, DOD and the military departments have established procedures for reviewing, approving and monitoring services acquisitions, including those for maintenance. Further, since 2006, all proposed services acquisitions with a value estimated at more than \$1 billion or designated as “special interest” are reviewed by USD(AT&L), while military department or other defense component officials review acquisition strategies for those below this threshold. Contract requirements, risks, and business arrangements are among the items included in reviewed acquisition strategies. Though these reviews take place, DOD does not collect or aggregate the information they produce to provide department-wide insight into the use of long-term maintenance contracts.
- Additionally, to improve DOD’s services acquisition process, USD(AT&L) implemented an independent management review, or peer review, process for its service contracts in 2008.<sup>20</sup> Occurring after approval of the acquisition strategy, these peer reviews are conducted prior to and after award of services contracts, and are published to facilitate cross-sharing of best practices and lessons learned on various contracting issues, including the use of competition, contract structure and type, definition of contract requirements, and cost or pricing methods. Each of these reviews provides for the discussion of issues related to contracting strategy, but DOD officials noted that they do not collect or maintain information on what type of contracting approach was used to acquire all services that support DOD weapon systems. Further, while DOD collects and makes available lessons learned from these reviews in areas such as source selection and use of incentives, DOD officials stated that the process has not resulted in lessons learned or best practices specific to the use of long-term maintenance contracts.
- Similarly, DOD policy and guidance require USD(AT&L) and military department senior acquisition executives approve acquisition

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<sup>20</sup>For more information see GAO, *Defense Acquisitions: Status of DOD’s Implementation of Independent Management Reviews for Services Acquisitions*, [GAO-10-284](#) (Washington, D.C.: Jan. 28, 2010).

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strategies and life-cycle sustainment plans during program milestone reviews. Each of these documents is to include information on the proposed acquisition approach, including the use of contractor support. Our discussions with USD(AT&L) and representatives from the military department offices responsible for reviewing these plans found these offices do not maintain information on the extent to which long-term maintenance contracts are used by weapon system programs.

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### Long-term Maintenance Contracts GAO Reviewed Had Widely Varied Characteristics

In the absence of department-wide data on the use of long-term maintenance contracts, we selected 10 long-term maintenance contracts that supported seven major weapon systems. We found that these contracts varied widely in terms of breadth of requirements, potential period of performance, and value.<sup>21</sup> For example, the contracts we reviewed included those that supported maintenance of an entire weapon system platform such as the Air Force's Joint Surveillance Target Attack Radar System (JSTARS) to more specific depot-level maintenance support activities for system components, such as the Navy's T-45 engine contract. Table 1 shows selected characteristics of the 10 contracts we reviewed.

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<sup>21</sup>We were unable to determine, even after working with military department and program officials, the number of long-term maintenance contracts used to maintain major defense acquisition programs. For example, we requested information from offices responsible for major defense acquisition programs as identified by the military departments, but found that in many instances program offices either did not provide the requested information or the information provided was incomplete, precluding a department-wide assessment. Consequently, we worked with officials from the military departments to identify potential programs that might be using long-term contracts. Air Force acquisition officials identified at least nine programs that used long-term maintenance contracts, including the F-22 and C-17. Navy and Army officials indicated that we needed to contact program executive offices or program offices to obtain more precise information on the extent to which such contracts are used.

**Table 1: Selected Characteristics of Long-term Maintenance Contracts Reviewed by GAO**

Military department/system	Component/platform supported by long-term contract	Contract type and incentives <sup>a</sup>	Potential contract term	Award year	Obligations through September 30, 2011 (in billions)
<b>Air Force</b>					
<b>C-130 transport aircraft</b>	C-130J airframe	Firm-fixed price contract/award fee	10 years: 2-year base + 3-year option + 3-year option + 2-year option	2006	\$0.3
	C-130J engine	Firm-fixed price requirements contract/incentive fee	9 years: 1-year base + eight 1-year options	2007	\$0.5
	T56 engine	Fixed-price-award-term requirements contract with economic price adjustment/award term	15 years: 7-year base + 8 possible award term years	1999	\$13.9
<b>JSTARS surveillance aircraft</b>	Platform	Cost-plus award fee contract/award term	22 years: 6-year base + 16 possible award term years	2000	\$1.9
<b>KC-10 tanker aircraft</b>	Platform	Firm-fixed price indefinite delivery/indefinite quantity contract/incentive option years	9 years: 2-year base + 2-year option + 2 year option + 3 possible incentive option years	2009	\$0.8
<b>Army</b>					
<b>AH-64 helicopter</b>	Airframe <sup>b</sup>	Firm-fixed price contract	5 years: 1-year base + four 1-year options	2010	\$0.2
<b>CH-47 helicopter</b>	Engine	Firm-fixed price contract/incentive fee	5 years: 1-year base + four 1-year options	2011	<\$0.1
<b>Navy</b>					
<b>MH-60 helicopter</b>	Airframe and avionics	Firm-fixed price requirements contract	4-year base with no options <sup>c</sup>	2011	\$0.2
<b>T-45 trainer aircraft</b>	Airframe	Firm-fixed price contract	5 years: 1-year base + four 1-year options	2008	\$0.3
	Engine	Firm-fixed price requirements contract	5 years: 1-year base + four 1-year options	2008	\$0.2

Source: GAO analysis of DOD data.

<sup>a</sup>Contract type and incentives represent the predominant type of contract vehicle and incentives used. A requirements contract provides for filling all purchase requirements of a government activity for supplies or services during the contract period from a single contractor. Indefinite delivery, indefinite quantity contracts provide for an indefinite quantity of supplies or services for a fixed time. A firm-fixed price contract provides for a price that is not subject to any adjustment on the basis of the contractor's cost experience in performing the contract. A fixed-price contract with economic price adjustment provides for upward and downward revision of the stated contract price upon the occurrence of specified contingencies. Cost-plus-award-fee contract is a cost-reimbursement contract that provides for a fee consisting of a base amount fixed at inception of the contract and an award amount based upon a judgmental evaluation by the government. Federal Acquisition Regulation Part 16.

<sup>b</sup>Contract also provides for maintenance of the CH-47 airframe.

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<sup>c</sup>According to program documentation, initial acquisition strategy called for a 5-year contract. Pricing for the current contract was negotiated together with the preceding 1-year bridge contract for a total 5-year pricing negotiation.

In addition to maintenance activities, the contracts we reviewed also provide supply chain management, technical data management, training, equipment configuration management, and engineering support, among other requirements. Further, we found that long-term maintenance contracts could extend up to 22 years if the contractor meets performance criteria and earns award terms. Lastly, we found that these contracts constituted a significant investment for the government, as program offices reported obligations of over \$18.4 billion on these contracts through the end of fiscal year 2011. In that fiscal year alone, programs obligated nearly \$1.7 billion on the 10 contracts we reviewed.

DOD officials noted that although long-term contracts can encourage contractors to invest in new facilities, equipment, and processes to support depot-level maintenance, such contracts may hinder the government's ability to appropriately incentivize the contractor's performance and control costs. DOD officials noted that the department is pursuing a number of initiatives that could potentially improve DOD's insight into long-term maintenance contracts and their management. For example, USD(AT&L) officials pointed out that the department is creating a standalone instruction for service acquisitions, based on DOD Instruction 5000.02. Although the instruction is in the early stages of development, USD(AT&L) officials said that it will provide more detailed guidance for the acquisition of specific services and reflect issues such as duration that have been raised in recent DOD guidance. USD(AT&L) officials said that the department is currently considering expanding or updating the Defense Acquisition Management Information Retrieval system to retain contract information for major service contracts, such as contractors' performance histories, contract lengths, contract types, and incentives used for these services.

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## Early Acquisition Decisions Limit DOD's Ability to Select Alternative Maintenance Providers

Decisions made early in the acquisition process can limit DOD's ability to select alternative maintenance providers over the life cycle of a weapon system program. Program officials believed they could select an alternative service provider in the future for 5 of the 10 contracts we reviewed, but the degree to which the government obtained access to technical data would be an obstacle in doing so for the other half. DOD has updated its policies to emphasize determining technical data needs earlier in the acquisition life cycle. Information we collected on eight weapon system programs in development or early stages of production that were reviewed by USD(AT&L) between October 2010 and October 2011 indicated that at least half have acquired or plan to acquire sufficient technical data to compete maintenance services or to perform maintenance with organic depot personnel should the need arise. The programs, however, had yet to determine the extent to which they will acquire these data or the cost to do so.

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## Some Major Weapon System Programs Could Select an Alternative Maintenance Service Provider but Others Faced Obstacles

DOD program officials said that decisions made early in the acquisition cycle, especially with regard to acquiring technical data, may hinder the department's ability to change maintenance service providers for depot-level activities. As we reported in May 2011, technical data can enable the government to complete maintenance work in-house, as well as to competitively award contracts for the acquisition and sustainment of a weapon system.<sup>22</sup> More recently, we reported that for contracts pertaining to DOD weapon programs, which can involve products as well as support services, the lack of access to proprietary technical data and a heavy reliance on specific contractors for expertise limits or even precludes the possibility of competition. Even when access to technical data is not an issue, the government may have little choice other than to rely on the contractors that were the original equipment manufacturers, and that, in some cases, designed and developed the weapon system.<sup>23</sup> Of the ten contracts we reviewed only three were competitively awarded. Table 2 summarizes the impact of technical data access on DOD programs' ability to select alternate services providers for maintenance on the contracts we reviewed.

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<sup>22</sup>GAO-11-469.

<sup>23</sup>GAO, *Defense Contracting: Competition for Services and Recent Initiatives to Increase Competitive Procurements*, GAO-12-384 (Washington, D.C.: Mar. 15, 2012).

**Table 2: Impact of Technical Data Access on Ability to Change Maintenance Service Providers for the Contracts GAO Reviewed**

Military department/ system	Component/platform supported by long-term contract	Competed contract?		Ability to transition contracted maintenance work to an organic depot?		Ability to recompile maintenance contracts?	
		Yes/No	Yes/No	Reason	Yes/No	Reason	
<b>Air Force</b>							
<b>C-130</b>	C-130J airframe	No	No	Insufficient access to technical data	No	Insufficient access to technical data	
	C-130J engine	No	No	Insufficient access to technical data	No	Insufficient access to technical data	
	T56 engine	Yes	Yes	Sufficient access to technical data; engine maintenance was once done organically	Yes	Access to technical data allows the program to recompile the current contract	
<b>JSTARS</b>	Platform	No	No	Insufficient access to technical data	No	Insufficient access to technical data	
<b>KC-10</b>	Platform	Yes	No	Insufficient access to technical data	Yes	The aircraft is commercially derived and there is a competitive environment	
<b>Army</b>							
<b>AH-64</b>	Airframe <sup>a</sup>	No	Yes	Sufficient access to technical data; the airframe maintenance is done organically with contractor support	No	Insufficient access to technical data for recompetition	
<b>CH-47</b>	Engine	No	Yes	Sufficient access to technical data; engine maintenance is done organically with contractor support	No	Insufficient access to technical data for recompetition	
<b>Navy</b>							
<b>MH-60</b>	Airframe and avionics	No	No	Insufficient access to technical data	No	Insufficient access to technical data	
<b>T-45</b>	Airframe	Yes	No	Insufficient access to technical data	Yes	Sufficient amount of technical data procured to recompile contract for this commercially derived aircraft	
	Engine	No	No	Insufficient access to technical data	No	Insufficient access to technical data	

Source: GAO analysis of DOD data.

<sup>a</sup>Contract also provides for maintenance of the CH-47 airframe.

DOD acquired technical data sufficient to potentially select an alternative service provider—either by transitioning contracted maintenance work to

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an organic depot or recompeting maintenance contracts—for 5 of the 10 maintenance contracts we reviewed. Three of these programs had sufficient access to technical data to perform maintenance services organically. For example,

- Depot maintenance for the AH-64 and CH-47 helicopter airframe components was already performed organically at the Corpus Christi Army Depot prior to the use of contractor support. However, the program determined that contractor support could improve its maintenance practices and the availability of components. While government personnel continue to do all maintenance work on airframe components, since 2004 the Army has used a contractor to provide parts integration, technical engineering and logistics support which has significantly increased system availability.
- As a result of a 1995 Base Realignment and Closure decision, the military depot that maintained the T56 engines for the C-130 program was closed. To mitigate the impact of the closing on the local community and employees, the maintenance workload was performed by the private sector at the same location. The Air Force used a public-private competition—an opportunity for the public and private offerors to compete for the work—to determine the most cost-effective source of repair, and the T56 engine maintenance is now provided by a contractor.<sup>24</sup>

Two other programs reported they are able to recompete maintenance services contracts even though neither program purchased complete technical data associated with the weapon system. According to program officials, they could compete contracts for maintenance services either because they acquired sufficient technical data for specific portions of the aircraft or because there was a competitive environment for maintenance services for commercially-derived systems. The latter are weapon systems that were adapted for military use from a commercial item as opposed to weapon systems developed for the military. For example,

- The Navy's T-45 trainer aircraft program was designated to be maintained by contractors for the life of the program, as it is not a core asset and there was a competitive environment with multiple vendors

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<sup>24</sup>GAO, *Depot Maintenance: Air Force Is Assessing Engine Maintenance Options for Work Currently Performed at Kelly Aviation Center*, [GAO-11-274R](#) (Washington, D.C.: Feb. 11, 2011).

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to provide maintenance support for this commercially available aircraft. During development, the Navy purchased technical data for DOD-specific aspects of the plane's airframe design, allowing the program office to re compete maintenance contracts throughout the life cycle of the system. Specifically, after the program split its system-level maintenance contract into separate engine and airframe contracts, it was able to leverage its access to technical data to competitively award the airframe contract. When the airframe contract was re competed in 2007, five vendors submitted capability statements. Program officials told us that they expect a similar industry response when the contract is re competed again this year.

- Similarly, for the KC-10 aircraft, the aircraft is based on a commercial design and uses contractor logistics support for maintenance services. The Air Force has competitively awarded five maintenance contracts since the KC-10 was acquired in 1978. The last competition occurred in 2010 and there were two proposals which resulted in the selection of a new contractor.

For 5 of the 10 contracts, however, programs reported they could neither transition contracted maintenance services to an organic depot nor re compete the contract due to insufficient access to technical data as well as factors such as insufficient funding, staffing, and expertise in some cases. For example,

- According to JSTARS program officials, the Air Force currently cannot convert contracted maintenance work to an organic depot or re compete the work because it has insufficient access to technical data for the aircraft's unique systems and equipment. Prior to awarding the current contract, the JSTARS program utilized 17 sustainment contracts with the government managing these contracts and performing some portions of maintenance organically. However, in September 2000, the Air Force noncompetitively awarded a contract so that a single contractor would be responsible for sustainment activities that were previously performed under contracts or by government personnel. Program officials said that when the Air Force took on the more limited role of oversight of the prime contractor, program staffing and expertise were reduced significantly. They added that, as a result, the program office currently lacks the engineers, equipment specialists, inventory managers, and other staff and skills needed to manage all sustainment activities if the requirements included in the current contract were to be performed by multiple service providers.

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- Though previous models of the Air Force's C-130 fleet are maintained organically, contractors developed the C-130J model (both the airframe and engine) as a commercial item and it was acquired by the Air Force without related technical data. As a result, the program office must acquire maintenance services for all components unique to this model of the aircraft from the original equipment manufacturers through contracts. Program officials noted that there is a requirement to eventually bring the aircraft maintenance to organic depots, but noted that even if it were able to acquire the necessary technical data, the program office would need substantial funding to develop capabilities at the organic depots.

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### Technical Data Rights Need to Be Considered Early in the Acquisition Process

Recent acquisition reforms such as the Weapon System Acquisition Reform Act of 2009 and DOD's recent initiatives seeking greater efficiency and cost savings in acquisitions have put greater emphasis on obtaining technical data rights and on maintaining competition throughout the life cycle of weapon systems. For example, Congress has required that DOD issue comprehensive guidance on life-cycle management, develop and implement product support strategies, and appoint product support managers for major weapon systems, while DOD's September 2010 efficiency initiatives memorandum includes a requirement that each military department set rules for acquisition of technical data rights as part of a plan to improve competition. DOD has taken a number of actions, including revising its acquisition policy to ensure that technical data requirements are considered during the acquisition process at key milestones. More recently, DOD has drafted guidance for developing open systems architecture contracts. This guidance will provide additional information to program managers regarding purchase of technical data and planning for an open systems architecture that may allow for increased flexibility in maintenance and purchase of such data.

Data we collected on eight DOD weapon systems currently in development or early stages of production that were reviewed by USD(AT&L) between October 2010 and October 2011 as part of an acquisition review indicates that the programs have considered maintenance and other sustainment issues when making decisions regarding technical data needs. Table 3 summarizes these eight programs' plans to acquire access to technical data rights.

**Table 3: Weapon System Programs’ Plans to Acquire Technical Data during Development and Production**

<b>Military department</b>	<b>Program</b>	<b>Technical data decision<sup>a</sup></b>
Air Force	MQ-9 Reaper unmanned aircraft system	Program officials said the Air Force is assessing the technical data required to maintain the weapon system at the component level.
Army	AH-64 Apache Block III helicopter	Army officials stated that the program will leverage the existing maintenance arrangement for previous variants of the aircraft and assess what technical data are necessary to maintain the Block III-unique components.
	XM982 Excalibur guided artillery projectile	The program reports that it is working with the contractor to ensure negotiated technical data are received, including those for certain proprietary technologies.
	MQ-1C Gray Eagle unmanned aircraft system	According to Army officials, the Army will assess the technical data required for specific system components.
Navy	AIM 9X Sidewinder air-to-air missile	Navy officials stated that the Navy is pursuing unlimited data rights for this new missile variant.
	E2D AHE Advanced Hawkeye aircraft	Navy officials stated that the Navy plans to obtain access to technical data as it is being developed for components unique to this variant, and will take possession of this data at the time the last aircraft is delivered.
	Littoral Combat Ship surface combatant	The Navy’s acquisition strategy states that technical data will be acquired to support organic and private support to the system. According to officials, the department purchased government purpose rights and unlimited technical data rights for over 95 percent of the sea frame and the interface of the mission package components.
	SSBN(X) Ohio-class replacement ballistic missile submarine	Program officials said the Navy plans to acquire unlimited technical data rights to support depot maintenance at government facilities.

Source: GAO analysis of DOD data.

<sup>a</sup>DOD may obtain different levels of rights to technical data including unlimited rights, government-purpose rights, and limited rights. If DOD obtains unlimited rights, it may provide the data to anyone for any reason. However, if DOD obtains government-purpose rights, it may provide the data to third-party contractors only for activities in which DOD is involved, including competitive procurement but not including commercial purposes. If DOD obtains limited rights, it may only use the data internally and may provide the data to third parties in a limited number of circumstances.

For the eight programs we reviewed, at least four have acquired or plan to acquire sufficient data to compete maintenance services or to perform maintenance with organic depot personnel while others had yet to determine the extent to which they will acquire these data or the cost to do so. For example:

- The Navy acquired government purpose rights and unlimited technical data rights for over 95 percent of major components for the Littoral Combat Ship, according to program officials.<sup>25</sup> They said that most of

<sup>25</sup>Specifically, Navy officials said that under this acquisition, the government purchased technical data for the sea frame and mission package component interface.

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the depot-level maintenance on the Littoral Combat Ship is expected to be performed by the private sector, and the Navy reports that competitive environment should enhance the ability of the Navy to control life-cycle sustainment costs.

- The Air Force has begun to analyze components on the MQ-9 aircraft and to determine what technical data is required to maintain the aircraft, according to program officials. They told us they are performing a business case analysis that will determine if technical data should be acquired for approximately 600 aircraft parts and major air frame components, but only a small percentage of these components have been assessed through this process to date.
- The Army will assess the technical data needs to maintain specific system components for components of the MQ-1C Gray Eagle as a means of retaining flexibility of maintenance options during sustainment. According to Army officials, the sustainment plan calls for the current contracting arrangement to transition to a public-private partnership in the future.

We previously reported that DOD program managers often opt to spend limited acquisition dollars on increased weapon system capability rather than on acquiring the rights to technical data, thus limiting their flexibility to perform maintenance work in house or to support the development of an alternative source should contractual arrangements fail.<sup>26</sup> Unless DOD assesses and secures its rights for the use of technical data early in the weapon system acquisition process when it has the greatest leverage to negotiate, DOD may face later challenges in developing sustainment plans or changing these plans as necessary over the life cycle of its weapon systems. Delaying action in acquiring technical data rights can make these data cost-prohibitive or difficult to obtain later in a weapon system's life cycle.

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<sup>26</sup>GAO, *Defense Management: Opportunities to Enhance the Implementation of Performance-Based Logistics*, [GAO-04-715](#) (Washington, D.C.: Aug. 16, 2004).

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## Programs Use Different Approaches to Incentivize Performance and Obtain Insights into Contractor Costs

Once the decision is made to use long-term contracts, DOD faces choices on how to best incentivize contractor performance and manage costs. Of the 10 contracts we reviewed, we found that DOD programs that used contracts extending longer than 5 years made frequent use of incentives to motivate performance and tools that provide insight into and control of costs. Program officials acknowledged, however, that in some instances incentive structures needed to be periodically revised to better incentivize contractor performance and they may not have sufficient insight on contractor costs. Program offices using contracts lasting 5 years, on the other hand, made less use of incentives and generally did not have the ability to renegotiate contract prices, but believed that the shorter-term nature of the contracts mitigated some of their risks. Further, program offices now obtain incurred cost data for two contracts, which they expect will help in the negotiation of better contract prices. The various contract lengths, incentives and cost-control tools across the programs we reviewed reflects the differences of each acquisition and the mission-specific maintenance approaches taken to support each weapon system, but the department has not collected information on their effectiveness on long-term maintenance contracts.

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## Programs with Longer-term Contracts Used Different Incentives and Tools to Provide Visibility on Costs

Of the programs we reviewed, we found that the Air Force awarded five relatively longer-term contracts—between 9 and 22 years—that incentivized contractor performance and attempted to gain insight into and control costs in various ways. All five of these contracts used some combination of monetary or contract term incentives to encourage contractor performance. These programs varied, however, in terms of the approaches used to gain insights into the contractors' costs. For example, the JSTARS program used cost-based incentive metrics, scheduled specific opportunities to renegotiate the contract's price, and received incurred cost data. In contrast, the contract to maintain the C-130's T56 engine did not use any of these approaches to gain cost insight. Table 4 summarizes the incentives and tools used to gain cost insight and cost control.

**Table 4: Longer-term Contracts' Use of Incentives and Tools to Control Costs**

Military department/contract	Potential contract length	Monetary incentive	Contract-term incentive	Cost-based incentive metric	Scheduled price renegotiation	Incurred cost data
<b>Air Force</b>						
JSTARS	22 years	✓	✓	✓	✓	✓
C-130 T56 engine	15 years	-	✓	-	-	-
C-130J airframe	10 years	✓	-	-	✓	✓
C-130J engine	9 years	✓	-	-	✓	-
KC-10	9 years	-	✓	✓	-	-

Source: GAO analysis of DOD data.

Program offices can use incentives to motivate contractors to provide exceptional levels of contract performance. Three longer-term contracts we reviewed include monetary incentives in the form of an award fee or an incentive fee, while three contracts use contract term incentives where a point system is used to award additional contract years. Program officials acknowledged that the incentives needed to be adjusted at times. For example, the JSTARS program uses an award fee incentive to motivate short-term contractor performance and an award term incentive to motivate the contractor's long-term performance. Over the course of the JSTARS contract, the contractor has earned nearly all the available award fee and award term years despite some serious performance issues in 2009. In this case, the Air Force identified several serious maintenance failures, including the presence of foreign objects in engine filters and aircraft structural damage resulting from maintenance errors, that were caused by the JSTARS contractor and which could have resulted in serious personal injury and loss of aircraft. Because the incentive structure encompasses the broad range of responsibilities assigned to the contractor, the contractor still earned most of that evaluation period's available fee and enough award term points to earn another year of contractor performance. The fee-determining official noted that if it were possible, he would have given the contractor a much lower award fee and rating. While the failures were reflected in the award fee evaluation under three performance metrics, the contractor's aggregate performance against the remaining metrics allowed it to earn 90 percent of the eligible fee for this 2009 evaluation period. The JSTARS program subsequently amended its award fee plan to make the contractor ineligible for 40 percent of the award fee if its performance caused or contributed to a major accident. The contractor has earned at least 95

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percent of the available award fee for every other evaluation period since the contract was awarded in 2000.

Program offices structured contract term incentives differently, which provided DOD different degrees of flexibility to award additional years of performance. For example, the award term plans for the JSTARS and C-130 T56 engine contracts we reviewed guarantee additional years of work if contractors meet or exceed incentive metrics. Both the JSTARS and C-130 T56 engine contractors have earned the maximum number of possible award term years. Conversely, the current incentive option offered by the KC-10 program differs from the award terms used by the JSTARS or C-130 T56 contracts in key respects. The KC-10 program's incentive includes "must-meet" metrics and a high degree of government discretion in awarding the additional incentive year. For example, even if the contractor meets all incentive metrics and earns the maximum available number of points needed to be considered for an additional incentive year, the program office can still decline to award the additional year. Additionally, if the contractor does not meet the standard set for any "must-meet" metric, it will not receive an incentive year. By structuring the incentive in this way, the program office mitigates the risk of the contractor earning incentives despite unsatisfactory performance, as in the previous JSTARS example. According to KC-10 officials, the contractor would not earn its first available incentive year with an approximate contract value of \$450 million because it failed to provide continuous support for the initiation of global tanker support activities, a "must-meet" metric, among other performance shortcomings.

Some of the programs that use longer-term contracts adjusted incentive metrics to influence contractor performance in areas needing improvement. For example, C-130J program officials said that since awarding the airframe maintenance contract in 2006, they gradually added more incentive metrics to the airframe contract's award fee plan to incentivize contractor performance in other areas. After the contractor improved performance in providing engineering services, the program office added an incentive metric to improve the contractor's performance for supply chain management.

The programs using the five longer-term contracts we reviewed also use to varying degrees different tools to gain insight into and control costs over the term of the contracts, as illustrated by the following examples.

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- The JSTARS cost-type contract was awarded on a non-competitive basis to the system's original equipment manufacturer and the contractor bears little risk under this long-term arrangement, but the program office has taken measures to obtain insights into and control the contractor's costs. The program office used the incurred cost data it receives under the cost-type contract to help renegotiate contract prices during triennial reviews.<sup>27</sup> Additionally, the program uses cost-based incentive metrics to evaluate performance for award fee and award term determinations. For example, under the terms of the program's January 2012 award fee plan, 10 percent of the contractor's award fee is determined by tracking cost performance against contract estimates. This same metric is used to represent 10 percent of award term determinations. In addition, cost containment is also evaluated as part of a weapon system improvement metric that accounts for 37 percent of award term determinations.
  - The C-130J program structured its potentially 10-year airframe and 9-year engine maintenance firm-fixed price contracts so that prices would be renegotiated at certain points during the contracts' durations. For example, the program office receives incurred cost data for the airframe contract, and has renegotiated prices three times since the contract was awarded in 2006, with another renegotiation scheduled for January 2014. Program officials said that receiving incurred cost data helped them negotiate a 13 percent reduction in total contract costs during the last scheduled price renegotiation in January 2012. Program officials told us they can also gain insight into cost baselines through regular contractor performance monitoring and evaluation. For example, according to officials, the contractor supporting airframe maintenance used a new system to track parts that allowed for better utilization of spare parts and led to a decrease in hours needed to perform the contract requirement. Program officials were able to negotiate a lower price for that contract requirement during the next scheduled price negotiation.

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<sup>27</sup>We reported in 2008 that the United Kingdom used an "open book accounting" arrangement to gain visibility into contractors' costs. Additionally, the four long-term contracts used as examples by the United Kingdom's Ministry of Defence each scheduled price negotiations during their 10- to 25-year terms. See GAO, *Defense Logistics: Improved Analysis and Cost Data Needed to Evaluate the Cost-effectiveness of Performance Based Logistics*, [GAO-09-41](#) (Washington, D.C.: Dec. 19, 2008).

- In contrast, neither the C-130 T56 engine contract nor the KC-10 program scheduled price renegotiations despite establishing firm-fixed prices for the entire potential length of the 15- and 9-year life of the respective contracts. For example, the C-130 T56 engine contract has prices fixed for the entire 15-year potential term of the contract with adjustments made for changes in best estimated quantities and for economic adjustments. Program officials expressed concern over their lack of insight into the contractor's incurred costs and added that having such information, along with scheduled price renegotiations at the 5-year and 10-year points in the contract, would likely have been helpful in controlling maintenance costs. While KC-10 program officials cited the benefit of competition to drive down prices for maintenance services, USD(AT&L) officials indicated that proposed contracts reflecting a similar approach, where prices for the entire duration of a long-term contract are priced at award, would be reviewed carefully to ensure that the government's interests were adequately protected.

**Programs with Shorter-term Contracts Tended Not to Use Incentives or Price Renegotiation Techniques**

The Army and Navy programs we reviewed used contracts with a maximum length of five years and generally did not make as frequent use of incentives or cost-control tools as programs using longer contracts. Army and Navy program officials indicated that they would prefer to use longer contracts in the future to enable contractors to invest in support infrastructure and improvements. Table summarizes the incentives and tools used for cost insight and cost control.

**Table 5: Program Offices' Use of Incentives and Tools to Control Costs on Shorter Duration Maintenance Contracts GAO Reviewed**

Military department/ contract	Potential contract length	Monetary incentive	Contract-term incentive	Cost-based incentive metric	Scheduled price renegotiation	Incurred cost data
<b>Army</b>						
AH-64 and CH-47 airframes	5 years	-	-	-	✓	✓
CH-47 engine	5 years	✓	-	-	-	-
<b>Navy</b>						
T-45 airframe	5 years	✓	-	-	-	-
T-45 engine	5 years	-	-	-	-	-
MH-60	4 years <sup>a</sup>	✓	-	-	-	✓

Source: GAO analysis of DOD data.

<sup>a</sup>According to program documentation, the initial acquisition strategy called for a 5-year contract. Due to delays in contract award the current contract is for only 4 years.

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Across the five contracts with a maximum length of five years, three used monetary incentives and none used incentives that lengthen the contract's term. The T-45 program office uses a performance bonus incentive, which allows the program to withhold monthly performance bonuses for contractor performance that did not meet or exceed thresholds on both incentive metrics. The program measures ready-for-training availability and the maintenance cancellation rate. The contractor must meet or exceed performance thresholds for these metrics at all three locations where the aircraft are based to receive an overall bonus. As a result, the contractor could lose as much as 65 percent of the available bonus by not meeting requirements at a single location. According to program officials, this incentivizes the contractor to perform optimally at all three locations. Performance records show that the contractor has earned most of the available bonus since the contract was awarded in 2008. Similarly, the contract for CH-47 engine maintenance support includes a clause which allows the contractor to earn an incentive fee for reducing engine repair turn-around time. Since the contract began in 2011, there has been one evaluation period; the contractor did not meet the incentive metric and did not earn any incentive fee. On the other hand, MH-60 program officials told us that incentives in the form of additional payments are not necessary for their program's maintenance support contract. They added that the contractor is self-incentivized to maximize its profit in this firm-fixed price contracting arrangement, which can be achieved through realizing efficiencies. Furthermore, they questioned the value of paying a contractor to provide services above and beyond what the program requires.<sup>28</sup> Instead, contract provisions allow the government to reduce the contractor's payment if the contractor's work does not meet minimum thresholds. MH-60 program officials reported that they have not had to make any downward price adjustments because the contractor is exceeding contract requirements.

Programs are now receiving incurred cost data to control maintenance costs for two five-year, firm-fixed price contracts, though this approach was not used in previous contracts for the same services. Since 2009, the MH-60 program office has required the contractor to submit incurred cost data semiannually. Program officials said that they were directed by the

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<sup>28</sup>In 2008, GAO reported on the department's awarding of incentives for performance exceeding contract requirements in performance based logistics arrangements, noting that paying for excess performance may not provide the best value to the government. See [GAO-09-41](#).

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Office of the Assistant Secretary of the Navy to request the contractor's incurred cost data and were supported by USD(AT&L) in negotiating for it. By comparing incurred costs and contract prices, program officials said that they were able to negotiate more favorable prices for the 2011 follow-on maintenance support contract. During the previous contract, the contractor was able to realize efficiencies that drove down its incurred costs. With access to this information, the MH-60 program was able to re-baseline contract costs and negotiate lower prices to reflect these efficiencies. The AH-64 and CH-47 programs also receive incurred cost data. A May 2011 DOD Inspector General audit found that the AH-64 and CH-47 programs were paying above fair and reasonable prices for parts supplied through their 5-year maintenance support contract.<sup>29</sup> The Inspector General reviewed costs for 24 high-dollar parts and calculated that the contractor charged the Army about \$13 million more than the fair and reasonable prices for 18 of the parts. Based on this finding, these programs began reviewing incurred costs for the highest-value parts supplied through this contract. The incurred cost review is being performed in parallel with a major update of total parts pricing on the contract, and program officials expect that there will be many downward price changes as a result. The program office plans to perform this review annually over the term of the contract.

DOD has not collected information concerning the effectiveness of the various incentives or cost-control tools used on long-term maintenance contracts, but it has recognized efforts made by individual programs to improve acquisitions of such services. For example, during a December 2010 peer review of the MH-60 airframe contract, USD(AT&L) officials noted that the use of incurred cost data allowed the program to negotiate lower prices for certain services. Program officials told us that it was difficult to negotiate for incurred cost data for fixed-priced contracts as contractors are generally reluctant to share their actual costs and seek to protect business-sensitive information. USD(AT&L) and military department officials told us that they are encouraging program officials to be more aggressive when asking for incurred costs, especially in situations where the government does not have the benefit of leveraging competition.

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<sup>29</sup>Department of Defense Inspector General, *Excess Inventory and Contract Pricing Problems Jeopardize the Army Contract with Boeing to Support the Corpus Christi Army Depot*, D-2011-061 (Arlington, Va.: May 3, 2011).

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## Conclusions

DOD does not collect data on the extent to which long-term contracts are currently used and managed, but our assessment of 10 contracts shows the value of having such information. Decisions made early in the acquisition cycle, and in particular, whether DOD will buy the rights to technical data are critical to availing itself of choices later in a program's life cycle. However, in the early stages, programs are often confronted with the choice between allocating scarce resources to enhance capability or maintaining future flexibility in terms of maintaining the system. Once the decision to forgo buying technical data is made, DOD's leverage in terms of being able to compete maintenance support or to provide it in house is largely lost. Programs must then rely on other, less powerful tools to assure good performance and good prices. The data we collected on eight programs that are in the process of making decisions related to securing access to technical data indicate that DOD is considering its future needs, but final decisions have yet to be made in several cases. The department also does not have information on the approaches used by various programs with long-term maintenance contracts to incentivize contractor performance and gain insight into contractor costs to help ensure that the government is getting the best value for its investment. DOD is considering several policy and data-related initiatives that could improve its insight on these contracts, but these efforts are in the early stages of development. Gaining insight into the department's use of long-term maintenance contracts as well as identifying lessons learned on what approaches work best to incentivize performance and control costs would help inform future acquisition strategies and reduce risk.

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## Recommendations for Executive Action

To help inform DOD's use of long-term maintenance contracts, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics, in coordination with cognizant offices within each of the military departments, to take the following two actions:

- Collect and analyze information on the use of long-term maintenance contracts by major weapon system programs; and
- Collect and disseminate lessons learned or best practices regarding the use of incentives and cost-control tools that can maximize the government's leverage when considering the future use of such contracts.

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## Agency Comments and Our Evaluation

DOD provided written comments on a draft of this report, stating that it concurred with both recommendations. DOD stated that it planned to develop methodologies to collect the needed information and disseminate best practices and lessons learned, but did not provide timeframes for doing so. We recognize that weighing options will take some time, but encourage the department to do so in a timely fashion. DOD's written response is reprinted in appendix II. DOD also provided technical comments that were incorporated as appropriate.

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

If you or your staff have any questions about this report, please contact Belva M. Martin at (202) 512-4841 or [martinb@gao.gov](mailto:martinb@gao.gov) or Cary Russell at (202) 512-5431 or [russellc@gao.gov](mailto:russellc@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix III.



Belva M. Martin  
Director, Acquisition and Sourcing Management



Cary B. Russell  
Acting Director, Defense Capabilities and Management

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# Appendix I: Scope and Methodology

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To gain insight into the how long-term maintenance contracts are managed by the Department of Defense (DOD), we assessed (1) the extent to which DOD uses long-term maintenance contracts to support major weapon system programs, (2) DOD's ability to select alternative maintenance services providers for its major weapon system programs, and (3) how long-term maintenance contracts have been structured to incentivize contractors' performance and manage contractor costs. After consulting with DOD acquisition and logistics officials, for the purposes of this report we defined long-term maintenance contracts as those with a total potential period of performance of at least 5 years that provide depot-level maintenance services or support performance of maintenance functions. Additionally, we limited the scope of our review to include those long-term contracts that support major defense acquisition programs.<sup>1</sup>

To assess the extent to which DOD uses long-term maintenance contracts, we reviewed pertinent DOD acquisition and maintenance policies and DOD's four most recent reports to Congress on the distribution of funds for public and private depot maintenance work compiled by the Office of the Assistant Secretary of Defense for Logistics and Materiel Readiness. Additionally, we examined a recent services portfolio analysis of Federal Procurement of Data System-Next Generation (FPDS-NG) data performed by the Office of Defense Procurement and Acquisition Policy to determine department spending for maintenance services.<sup>2</sup> We interviewed senior acquisition and logistics officials from the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics and the military departments to determine what department-wide data was collected, reported, and analyzed regarding long-term maintenance contracts. We also performed independent analysis of FPDS-NG data to determine the extent to which this system provides insight into DOD's use of long-term maintenance contracts. After determining that DOD lacked department-wide data on the use of long-term maintenance contracts, GAO attempted to gather this information

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<sup>1</sup>Major defense acquisition programs are those estimated by the Under Secretary of Defense for Acquisition, Technology, and Logistics to require an eventual total expenditure of more than \$365 million for research, development, test, and evaluation, based on fiscal year 2000 constant dollars; \$2.190 billion for procurement in fiscal year 2000 constant dollars; or are designated as a major defense acquisition program by the milestone decision authority.

<sup>2</sup>The Federal Procurement Data System-Next Generation is the federal government's current system for tracking information on contracting actions.

from program offices and program executive offices in each of the military departments. However, due to data reliability issues and incomplete responses, GAO determined that it could not use the information collected with reasonable assurance of accuracy for department-wide analysis of long-term maintenance contracting use and management.

Based on further discussions with military department officials, we reviewed 10 long-term contracts supporting seven major defense acquisition programs. We selected these contracts to represent each of the military departments and to illustrate different maintenance approaches. The programs we selected included the following:

*Air Force*

- Joint Surveillance Target Attack Radar System (JSTARS)
- C-130 Hercules transport aircraft
- KC-10 Extender refueling tanker aircraft

*Army*

- AH-64 Apache helicopter
- CH-47 Chinook helicopter

*Navy*

- MH-60 Seahawk helicopter
- T-45 Goshawk training aircraft

To determine the extent to which DOD has the ability to select alternative maintenance services providers for its major weapon system programs, we reviewed DOD and military department policy and interviewed senior officials in the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics and military department officials to determine how maintenance options are considered and what factors contribute to retaining program flexibility for sourcing depot-level maintenance. For the programs we reviewed, we examined acquisition plans to determine how the government decided upon a contract-based approach to maintenance. We interviewed cognizant program officials to determine the factors that impact the government's ability to change maintenance providers, focusing on the ability to transition contracted maintenance work to a government-owned and government-operated depot and the ability to re compete maintenance contracts. We also requested a list of

major defense acquisition programs that recently went through an acquisition review and preliminary information on provisions for acquiring technical data rights. For the eight programs DOD identified as having such a review between October 2010 and October 2011, we interviewed program officials and reviewed acquisition documents, such as acquisition strategies and life-cycle sustainment plans, which described the rationale for the program's plans to acquire technical data rights.

To assess how long-term maintenance contracts were structured to incentivize contractors' performance and manage contractor costs, we reviewed acquisition plans, contractual information, including pricing data and price negotiation memorandums, and interviewed cognizant acquisition and logistics officials to understand the incentives and tools used by program offices to motivate contractor performance and provide visibility into contractor costs. For the 10 contracts we selected, we reviewed programs' use of monetary incentives such as award and incentive fees, performance bonuses, and downward price adjustments. Additionally, we reviewed programs' use of contract term incentives, specifically award terms and incentive options, which can extend a contract's period of performance. We analyzed incentive plans and contractor performance data to determine how performance was assessed, recorded, and resulted in the award of fee or additional years of contracted work. We also interviewed program officials on the use of incentives and compared prior versions of incentive plans to determine how incentive metrics changed over time. For the 10 contracts we reviewed, we identified the extent to which programs used incurred cost data, price renegotiations, and cost-based incentive metrics as a means to gain insight into contractor costs. We also interviewed officials from the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, the military departments, and program offices on the benefits and risks associated with long-term contracts.

We conducted this performance audit from February 2011 through May 2012 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: Comments from the Department of Defense



ACQUISITION,  
TECHNOLOGY  
AND LOGISTICS

OFFICE OF THE UNDER SECRETARY OF DEFENSE  
3000 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3000

MAY 25 2012

Ms. Belva M. Martin  
Director, Acquisition and Sourcing Management  
U.S. Government Accountability Office  
441 G Street, N.W.  
Washington, DC 20548

Dear Ms. Martin:

This is the Department of Defense (DoD) response to the GAO Draft Report GAO-12-558, "DEFENSE ACQUISITIONS: Further Action Needed to Improve DOD's Insight and Management of Long-term Maintenance Contracts," dated April 24, 2012 (GAO Code 120968). Detailed comments on the report recommendations are enclosed.

Sincerely,

A handwritten signature in cursive script, appearing to read "Richard Ginman".

Richard Ginman  
Director, Defense Procurement  
and Acquisition Policy

Enclosure:  
As stated

GAO DRAFT REPORT DATED APRIL 24, 2012  
GAO-12-558 (GAO CODE 120968)

“DEFENSE ACQUISITIONS: FURTHER ACTION NEEDED TO  
IMPROVE DOD’S INSIGHT AND MANAGEMENT OF LONG-  
TERM MAINTENANCE CONTRACTS”

DEPARTMENT OF DEFENSE COMMENTS  
TO THE GAO RECOMMENDATIONS

**RECOMMENDATION 1:** To help inform DoD’s use of long-term maintenance contracts, GAO recommends the Secretary of Defense direct the Under Secretary of Defense (Acquisition, Technology and Logistics), in coordination with each of the military departments, to collect and analyze information on the use on long term maintenance contracts by major weapon system programs.

**DoD RESPONSE:** Concur. The Department will develop a methodology to collect and analyze information on the use of long term maintenance contracts by major weapon system programs.

**RECOMMENDATION 2:** To help inform DoD’s use of long-term maintenance contracts, GAO recommends the Secretary of Defense direct the Under Secretary of Defense (Acquisition, Technology and Logistics), in coordination with each of the military departments, to collect and disseminate lessons learned or best practices regarding the use of incentives and cost control tools that can maximize the government’s leverage when considering the future use of such contracts.

**DoD RESPONSE:** Concur. The Department will develop a methodology to collect and disseminate lessons learned or best practices regarding the use of incentives and cost control tools to maximize the government’s leverage when considering future use of long-term maintenance contracts.

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# Appendix III: GAO Contact and Staff Acknowledgments

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## GAO Contacts

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## Staff Acknowledgments

In addition to the contacts named above, Carleen Bennett, Assistant Director; Timothy DiNapoli, Assistant Director; Steven Banovac; Lee Cooper; Julia Kennon; John Krump; Wiktor Niewiadomski; Bob Swierczek; and Tom Twambly made key contributions to this report.

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