



November 2016

# DEPOT MAINTENANCE

Improvements to  
DOD's Biennial Core  
Report Could Better  
Inform Oversight and  
Funding Decisions

# GAO Highlights

Highlights of [GAO-17-81](#), a report to congressional committees

## Why GAO Did This Study

DOD uses both military depots and contractors to maintain many complex weapon systems and equipment. Recognizing the key role of the depots and the risk of overreliance on contractors, Section 2464 of Title 10 of the U.S. Code requires DOD to maintain a core maintenance capability—a government-owned and operated combination of personnel, facilities, equipment, processes, and technology. Section 2464 requires DOD to provide a Biennial Core Report to Congress that includes information for the next fiscal year on three elements of depot workload.

Section 2464 included a provision that GAO review DOD's Biennial Core Reports for compliance and completeness. In reviewing DOD's 2016 Biennial Core Report, GAO assessed the extent to which (1) the report complies with the three elements of the statute and provides complete information and (2) any changes to Section 2464 could enhance transparency. GAO reviewed relevant legislation, DOD guidance, and the 2016 Biennial Core Report.

## What GAO Recommends

Congress should consider requiring DOD to include additional information in future reports that could better inform oversight. GAO recommends that DOD update its guidance to clarify, among other things, how to calculate workload shortfalls. DOD concurred with the recommendation, but expressed concerns with Congress requiring it to include additional information in the report. GAO continues to believe that its matter for Congressional consideration is valid, as discussed in this report.

View [GAO-17-81](#). For more information, contact Zina Merritt at (202) 512-5257 or [merritt@gao.gov](mailto:merritt@gao.gov)

November 2016

## DEPOT MAINTENANCE

### Improvements to DOD's Biennial Core Report Could Better Inform Oversight and Funding Decisions

## What GAO Found

The Department of Defense's (DOD) 2016 Biennial Core Report to Congress complied with two of the three reporting elements required by Section 2464—core capability requirements and planned workload. It partially complied with the third element—a detailed explanation or rationale for shortfalls and accompanying mitigation plans—because DOD did not include rationales and mitigation plans for all identified shortfalls. In a prior report, GAO recommended that DOD improve its Core Report by including detailed explanations for each identified shortfall. DOD concurred with this recommendation and stated that it was taking steps to implement it. Including rationales and mitigation plans in future core reports will provide Congress visibility into whether the armed services' plans address the causes of the core shortfalls.

#### The Extent to Which the Department of Defense's Report Complied with the Law

Required Reporting Elements	Compliance <sup>a</sup>
1. Core Capability Requirements	Complied
2. Planned Workload	Complied
3. Explanations and mitigation plans for any shortfalls	Partially Complied

Source: GAO analysis of DOD's 2016 Biennial Core Report. | GAO-17-81

<sup>a</sup> Complied means that the report explicitly included all parts of the required reporting element.

Partially complied means that the report included some—but not all—parts of the required reporting element. For example, some of the armed services did not provide rationales for shortfalls identified and a plan to either correct or mitigate the effects of the shortfall.

Regarding completeness—including accurate data and supporting information from the armed services—the armed services are not calculating their shortfalls consistently. For example, the Army and Air Force calculate their own shortfalls, while the Navy and Marine Corps' shortfalls are calculated by DOD. The armed services are not calculating their shortfalls consistently because DOD does not provide guidance on, among other things, how to calculate the shortfalls. Therefore, DOD cannot be sure that the armed services are calculating their shortfalls accurately to support the information in the Core Report.

While DOD generally reports on the elements required by Section 2464, additional information currently not required by the statute could help improve the transparency of the report so that it would better inform oversight and funding decisions. This would include information on issues such as workload shortfalls, mitigation plans, work breakdown structure categories, and whether the core requirements reported in previous core reports have been executed. To require such information in the report, Congress would need to amend the statute.

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### Abbreviations

BMDS	Ballistic Missile Defense Agency
DOD	Department of Defense
MDA	Missile Defense Agency
OSD	Office of the Secretary of Defense

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November 28, 2016

Congressional Committees

The Department of Defense (DOD) maintains many complex weapon systems (such as aircraft and ships) and equipment (such as generators and radars) that require regular and emergency maintenance<sup>1</sup> to continue being available for DOD to meet national security goals. To sustain these systems and equipment the department uses a combination of military depots<sup>2</sup>—public-sector facilities that are government-owned and government-operated—and private-sector contractors. Depots have a key role in sustaining complex weapon systems and equipment both in peacetime and during a mobilization, contingency, or other emergency. DOD must ensure that it has what is referred to as the “capability” to perform needed repair work by maintaining a combination of skilled personnel, facilities and equipment, processes, and technology for each category of maintenance work being done.

Recognizing the important role of the depots in supporting U.S. forces and the risk of overreliance on private contractors for vital military needs, Congress enacted legislation in 1984 that exempts certain core maintenance activities identified by the Secretary of Defense from being contracted out.<sup>3</sup> The statute was later codified at Section 2464 of Title 10 of the United States Code and has been amended several times. Among other things, Section 2464 requires DOD to maintain a “core depot-level maintenance and repair capability”—a maintenance and repair capability that is government-owned and -operated—to provide a ready and

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<sup>1</sup>There are two levels of DOD maintenance: field level and depot level. Field level maintenance includes organizational and intermediate maintenance and requires fewer skills, but it occurs more frequently. Depot level maintenance occurs less frequently but requires greater skills. Maintenance ranges in complexity from daily system inspection, to rapid removal and replacement of components, to the complete overhaul or rebuild of a weapon system.

<sup>2</sup>Depot maintenance is an action performed on materiel or software in the conduct of inspection, repair, overhaul, or the modification or rebuild of end-items, assemblies, subassemblies, and parts, that, among other things, requires extensive industrial facilities, specialized tools and equipment, or uniquely experienced and trained personnel that are not available in other maintenance activities. Depot maintenance is independent of any location or funding source and may be performed in the public or private sectors.

<sup>3</sup>Pub. L. No. 98-525 § 307 (1984). This section was originally codified at 10 U.S.C. § 2304 (note).

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controlled source of technical competence and resources to ensure effective and timely response to mobilizations, contingencies, or other emergencies. Additionally, DOD must assign these government-owned and -operated facilities (the depots) sufficient workload<sup>4</sup> to ensure that the department can maintain cost efficiency and technical competence during peacetime while preserving the ability to respond to a mobilization, contingency, or emergency.

The armed services are required by DOD policy<sup>5</sup> to use a computational methodology to identify their core capability requirements and their planned workload to support this core maintenance capability. The armed services must submit biennially to the Secretary of Defense a report that shows the results of this analysis and any identified shortfalls between the requirements and planned workload.<sup>6</sup>

The National Defense Authorization Act for Fiscal Year 2012<sup>7</sup> amended Section 2464 to require DOD, among other things, to submit a biennial report to Congress no later than April 1 of each even-numbered year.<sup>8</sup> The statute states that DOD is required to identify the following three elements for each armed service for the subsequent fiscal year:

- The core depot-level maintenance and repair capability requirements and sustaining workloads, organized by work breakdown structure, expressed in direct labor hours;<sup>9</sup>

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<sup>4</sup>While the statute does not define workload in this context, DOD defines workload as an amount of depot maintenance work related to specific weapon systems, equipment, components, or programs and to specific services, facilities, and commodities. Department of Defense Instruction 4151.20, *Depot Maintenance Core Capabilities Determination Process* (Jan. 5, 2007).

<sup>5</sup>DOD Instruction 4151.20.

<sup>6</sup>In this report, we refer to what DOD calls “core sustaining workload” as “planned workload to support core capabilities” or “planned workload.”

<sup>7</sup>Pub. L. No. 112-81, § 327 (2011). DOD is required to continue reporting its Biennial Core Report to Congress.

<sup>8</sup>See appendix I for a timeline of the legislative history and GAO’s prior reports related to 10 USC § 2464.

<sup>9</sup>While the statute does not define direct labor hours in this context, in its Instruction 4151.20, DOD defines a direct labor hour as one hour of effort directly attributed to a category of work.

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- The corresponding workloads necessary to sustain core depot-level maintenance and repair capability requirements, expressed in direct labor hours and cost; and
  - In any case where core depot-level maintenance and repair capability requirements exceed or are expected to exceed sustaining workloads, a detailed rationale for any and all shortfalls and a plan either to correct or mitigate the effects of the shortfalls.

In this report, we characterize the above three elements of DOD's reporting requirement as (1) core capability requirements—this refers to the workload required to sustain core maintenance capability; (2) planned workload; and (3) in any case where the required workload exceeds the planned workload where there are shortfalls, a detailed rationale or explanation of why planned workload is insufficient and a plan to correct or mitigate the effects of the shortfall.<sup>10</sup>

In our prior reviews of DOD's 2012 and 2014 Biennial Core Reports, we found that DOD had complied with two of the three required reporting elements of Section 2464 by including information on core capability requirements and the planned workload available to meet these requirements. We also found that the report partially complied with the third reporting element. Specifically, DOD's reports included information on shortfalls, as well as plans to mitigate the effects of all shortfalls where requirements exceeded planned workload. However, the report did not include required information on the rationale for some of these shortfalls—reasons why the armed services did not have the workload to meet core requirements. We also found that the 2014 Core Report contained data errors for the first two elements. In our 2013 report, we recommended that DOD improve its Biennial Core Report (Core Report) by including detailed explanations of why the armed services did not have the workload to meet core maintenance requirements for each identified shortfall.<sup>11</sup> In our 2014 report, we recommended that DOD implement improvements to ensure that future Core Reports will be more accurate and complete.<sup>12</sup> DOD concurred with both recommendations and stated

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<sup>10</sup>We have used this summary of the three elements in our prior work. For example, see GAO, *Depot Maintenance: Accurate and Complete Data Needed to Meet DOD's Core Capability Requirements*, [GAO-14-777](#) (Washington, D.C.: Sept. 18, 2014).

<sup>11</sup>GAO, *Depot Maintenance: Additional Information Needed to Meet DOD's Core Capability Reporting Requirements*, [GAO-13-194](#) (Washington, D.C.: Feb. 11, 2013).

<sup>12</sup>[GAO-14-777](#).



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that it would take steps to implement them.<sup>13</sup> For a listing of relevant past GAO work, see the Related GAO Products list at the end of this report.

The statute includes a provision for us to analyze DOD's Core Report after it is submitted to Congress, for compliance with Section 2464, assess the completeness of the report, and provide findings and recommendations to DOD. Also, House Report 114-02 accompanying the National Defense Authorization Act for Fiscal Year 2016 includes a provision for us to identify potential changes to 10 USC 2464(d) that could enhance the transparency of the Core Report. DOD submitted its third Core Report to Congress on June 10, 2016 and included the Missile Defense Agency (MDA) as one of the reporting agencies, along with the armed services. In this report, we (1) assess the extent to which the Biennial Core Report complies with the three reporting elements required by Section 2464 and is complete and (2) identify potential changes to Section 2464 that could enhance transparency in the Biennial Core Report. We briefed your staff on August 4, 2016, as required, on our preliminary observations on DOD's compliance in addressing each element in Section 2464(d). This report provides the final results of our analyses.

To assess the extent to which DOD's Core Report complies with Section 2464, we analyzed the text of the report, compared the text of the report with the elements required by the statute, and obtained information on the process by which DOD identified its core capability requirements and the workload needed to sustain its core maintenance capability for fiscal year 2017. When the report explicitly included all parts of the required reporting element, we determined that DOD "complied" with the element. When the report did not explicitly include any part of the element, we determined that DOD "did not comply." If the report included some aspects of an element, but not all, then we determined that DOD "partially complied." In those cases where we had determined that the report did not include some aspects of a required element, we discussed our preliminary analyses with the Office of the Secretary of Defense (OSD) and armed service officials to seek additional information. To assess the report's completeness,<sup>14</sup> we obtained and analyzed fiscal year 2017 data, including core capability requirements and sustaining workload expressed

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<sup>13</sup>See appendix II for our follow-up and update on these recommendations.

<sup>14</sup>Completeness refers to accurate data and supporting information from the reporting agencies.

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in direct labor hours and cost, and other information such as workload shortfall explanations that OSD required the armed service headquarters to submit in support of the report. In order to determine if these data and information were complete, we performed a number of data check steps to identify inconsistencies or errors and discussed our analyses with OSD and armed service officials, which also led us to conclude that the data were sufficiently reliable for the purposes of this report. We assessed the accuracy and completeness of the information in DOD's 2016 Biennial Core Report using criteria outlined in *Standards for Internal Control in the Federal Government*,<sup>15</sup> for example, that management should design control activities so that all transactions are completely and accurately recorded.

To identify potential changes to Section 2464 that could increase transparency, we reviewed DOD's guidance, Section 2464, and criteria outlined in *Standards for Internal Control in the Federal Government*,<sup>16</sup> for example, that management should design control activities to achieve objectives and respond to risks, to determine what additional information OSD could report to Congress. We also interviewed OSD's and the reporting agencies' officials to identify any additional information that could be included in the Core Report.

We conducted this performance audit from June 2016 to November 2016 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. We discuss our scope and methodology in more detail in appendix III.

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## Background

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### Determining Core Capability Requirements

DOD Instruction 4151.20 requires the armed services to apply a process to determine their core capability requirements—that is, to identify what

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<sup>15</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: September 2014).

<sup>16</sup>[GAO-14-704G](#).

core capabilities are required and what workload would be necessary to enable them to sustain these core capabilities at the depots. DOD Instruction 4151.20 describes a series of mathematical computations and adjustments that the armed services are required to use to compute their core capability requirements and to identify the workload that needs to be planned to support these requirements. Also, the instruction requires that the armed services identify the weapon systems required to execute the Joint Chiefs of Staff contingency scenarios, which represent plans for responding to conflicts that may occur in the future. After systems are identified, the armed services compute annual depot maintenance capability requirements for peacetime, in direct labor hours, to represent the amount of time they will regularly take to execute required maintenance. An armed service may determine that repair capabilities for certain systems maintained at the depots are so similar that they share common base repair processes that can effectively satisfy the repair requirements of other systems.<sup>17</sup>

During this process of identifying the systems for which they will be required to maintain repair capabilities, DOD Instruction 4151.20 requires that the armed services organize and aggregate their capability data by categories of equipment and technologies known as work breakdown structure categories. The work breakdown structure category is a grouping of work associated with DOD’s weapon systems and equipment. DOD uses these categories to organize data on its various core capability requirements and workloads to manage and report on its core capabilities. There are 11 categories at the top level—“first level”—of the work breakdown structure. A first-level category summarizes information for an entire type of system or equipment. Table 1 shows the 11 first-level categories of the work breakdown structure.

**Table 1: First-Level Categories of DOD’s Work Breakdown Structure**

<b>Work breakdown number</b>	<b>Name of work breakdown structure category</b>
1	Aircraft
2	Ground Vehicles
3	Sea Ships
4	Communication/Electronic Equipment
5	Support Equipment

<sup>17</sup>See appendix IV for a graphical representation of DOD’s Core Determination Process.

Work breakdown number	Name of work breakdown structure category
6	Ordnance, Weapons, & Missiles
7	Software
8	Fabrication/Manufacturing
9	Fleet/Field Support
10	Special Interest Items
11	Other

Source: DOD's 2016 Biennial Core Report. | GAO-17-81

A first-level category can be broken down into second-level subcategories, which are the major elements that make up the system or equipment in the first-level category. For example, the first-level category for Aircraft can be broken down into the second-level subcategories for Airframes, Aircraft Components, and Aircraft Engines, which are major elements that make up an aircraft. The second-level subcategories can be further broken down into third-level subcategories, which are subordinate elements that make up the major elements in the second-level categories. For example, the second-level subcategory for Airframes is further divided into the third-level subcategories—different types of airframes, such as Rotary, Fighter/Attack, or Bomber. The subcategories can be further broken down to the lowest-level element of the system. Lower-level categories are subcategories of the eleven first-level work breakdown structure categories. DOD refers to these levels as “levels of indenture.” The work breakdown structure can be expressed at any level of detail down to the lowest-level part, such as a bolt. Table 2 shows an example of the top three levels of the work breakdown structure for Aircraft.

**Table 2: Example of DOD Work Breakdown Structure Category Levels for Aircraft**

Level	Category Number	Work Breakdown Structure Category
First	1	Aircraft
Second	1.1	Airframes
Third	1.1.1	Rotary
Third	1.1.2	Vertical and/or Short Take-Off Landing Aircraft
Third	1.1.3	Cargo/Tanker
Third	1.1.4	Fighter/Attack
Third	1.1.5	Bomber
Third	1.1.6	Aircraft – Other

Source: DOD Instruction 4151.20. | GAO-17-81

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The instruction requires the armed services to identify their core capability requirements and the amount of available planned workload within the work breakdown structure categories and subcategories.

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## Reporting Core Maintenance Capability

DOD Instruction 4151.20 requires each DOD Component that performs depot maintenance to report biennially to OSD its core capability requirements and planned workload, in accordance with a tasking memorandum issued for each reporting cycle. The instruction includes a worksheet called the “core submission worksheet” that the components are to complete and submit to OSD. The worksheet calls for information to be organized by the work breakdown structure to various subcategory levels, mostly at the second level of subcategories. Appendix III provides a table listing these categories and subcategories.

On October 5, 2015, OSD issued the tasking memorandum for the 2016 Biennial Core Report, which directs the armed services and the Missile Defense Agency to use DOD Instruction 4151.20 as basic guidance and includes further guidance on how to meet the requirement under Section 2464 to report this information to Congress. The memorandum augments the core submission worksheet by adding another column for the estimated costs of performing the planned workload at the first-level of work categories. The instruction and tasking memorandum also require the armed services to provide additional information when reporting shortfalls in planned workloads. If an armed service does not have sufficient workload to sustain the required level of capability that has been identified, a shortfall exists; in other words, the military depots have not been assigned sufficient depot maintenance workload to enable them to sustain their identified core capabilities. For example, an armed service may have identified 10,000 direct labor hours of core capability requirements for ground vehicles but have only 4,000 hours of anticipated depot maintenance work for ground vehicles. This armed service will have a workload shortfall of 6,000 hours. The instruction requires that the armed services report on shortfalls by providing a description of those shortfalls and a plan to address them to accompany the core submission worksheet, but it does not require that the shortfalls be calculated in the core submission worksheet.

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## Missile Defense Agency Included as a Reporting Agency in DOD's 2016 Biennial Core Report

The Missile Defense Agency (MDA) was created in 2002 to develop a variety of systems, known as elements—including sensors, interceptors, command and control, battle management, and communications—to enable the warfighter to destroy enemy missiles before they can reach their targets. The ultimate goal is to integrate these various elements to function as a single system: the Ballistic Missile Defense System (BMDS). Once BMDS capabilities are developed that are useful to the warfighter, the management and some funding responsibility for the operation and sustainment of the capability is to be transferred to a lead service within the armed services.

In 2003, MDA recommended and DOD approved the transfer of one system element, Patriot Advanced Capability-3 (PAC-3) program, to the Army.<sup>18</sup> The PAC-3 was transferred to the Army because MDA had completed the initial development of this element and the Army, as the lead service, would now be responsible for managing the production, operation and sustainment of the PAC-3. According to MDA officials, to date, no other elements of the BMDS have transferred to the armed services. These officials also stated that MDA is responsible for the management, funding, production, operation, and sustainment of these elements and has been providing maintenance through contractor logistics support.

For its 2016 Core Report, DOD included MDA as a reporting agency<sup>19</sup> because, according to OSD, the BMDS developed by MDA is used to respond to contingency operations and has been identified as a core capability. To support the data in the Core Report, MDA provided information on three of the five elements of the BMDS in its core submission worksheet:

1. **Aegis Ballistic Missile Defense** – includes ship- and land-based ballistic missile defense capabilities using a radar, command and control, and Standard Missile-3 interceptors. The Navy was designated as the lead service in 2006.

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<sup>18</sup>The Patriot Advanced Capability-3 provides simultaneous air and missile defense capabilities in defense of U.S. deployed forces and allies against short-range ballistic missiles.

<sup>19</sup>The reporting agencies include the armed services (Army, Navy, Air Force, and Marine Corps) and the Missile Defense Agency.

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2. **Army Navy/Transportable Radar Surveillance** – forward-based, land-based radar to provide additional advance warning of ballistic missile launches. The Army was designated as the lead service in 2006.
  3. **Terminal High Altitude Area Defense** – a mobile, ground-based system to defend against short- and medium-range threats using a battery that consists of interceptors, launchers, a radar, and fire control and communication systems. The Army was designated as the lead service in 2006.

According to MDA officials, they included these three system elements in their core submission worksheet because these elements are in use by the warfighter. MDA did not include the following two system elements in its core submission worksheet:

4. **Command and Control, Battle Management and Communications** – a globally deployed system of hardware—workstations, servers, and network equipment—and software that links and integrates individual elements, allowing users to plan ballistic missile defense operations, see the battle develop, and manage networked sensors. MDA developed this system in 2002.
5. **Ground-Based Midcourse Defense** – defends against intermediate- and intercontinental-range ballistic missiles by using ground-based interceptors that consist of a booster and a kill vehicle, plus a ground system that includes launch, communications, and fire control capabilities. The Army was designated as the lead service in 2006.

According to MDA officials, they did not include these two system elements in their core submission worksheet because these elements are considered developmental programs and are not yet considered safe and suitable for use by the warfighter.

## DOD Complied with Two of the Three Required Reporting Elements and Partially Complied with the Third, and the Report Was Not Complete Due to Some Inaccurate Data

DOD's 2016 Core Report to Congress complied with two of the three required reporting elements of Section 2464—core capability requirements and planned workload. It partially complied with the third element, because it included information on shortfalls and mitigation plans, but it did not provide detailed explanations of all shortfalls and mitigation plans, as shown in table 3 below.<sup>20</sup> Additionally, DOD included MDA as a reporting agency in its 2016 Core Report but did not report accurate information for it. Lastly, reporting agencies did not always provide accurate data for the Core Report because they do not have clear guidance on issues such as how to report additional depot workload performed that has not been identified as a core requirement, accurately capture inter-service workload, calculate shortfalls, and estimate cost of planned workload.

**Table 3: The Extent to Which the Department of Defense's (DOD) 2016 Biennial Core Report Complied with the Law**

	Required Reporting Elements	Compliance <sup>a</sup>
1.	The core depot-level maintenance and repair capability requirements and sustaining workloads, organized by work breakdown structure, expressed in direct labor hours.	Complied
2.	The corresponding workloads necessary to sustain core depot-level maintenance and repair capability requirements, expressed in direct labor hours and cost.	Complied
3.	In any case where core depot-level maintenance and repair capability requirements exceed or are expected to exceed sustaining workloads, a detailed rationale for any and all shortfalls and a plan either to correct or mitigate the effects of the shortfalls.	Partially Complied

Source: GAO analysis of DOD's 2016 Biennial Core Report. | GAO-17-81

<sup>a</sup>Complied means that the report explicitly included all parts of the required reporting element. Partially complied means that the report included some—but not all—parts of the required reporting element. For example, some of the armed services did not provide rationales for shortfalls they identified and a plan to either correct or mitigate the effects of the shortfall.

## The Report Included Information on Core Capability and Planned Workloads

DOD's 2016 Core Report complied with the first two elements in Section 2464—to provide information on core capability requirements and planned workload. As requested by OSD to support the Core Report, the armed services provided data on their core capability requirements, organized by lower-level elements of the eleven first-level categories of the work breakdown structure. The report included the required

<sup>20</sup>Our compliance assessment includes only the armed services, because Section 2464 requires DOD to include in its report information from each of the armed services. MDA is not included in the compliance assessment because MDA is not an armed service and, as such, Section 2464 does not require DOD's report to include information from MDA.



information on core capability requirements—expressed in direct labor hours—at the first-level category of the work breakdown structure, for each of the armed services. As reported in DOD’s 2016 Core Report, DOD’s total core capability requirements are about 58.5 million direct labor hours, as shown in table 4.

**Table 4: Core Capability Requirements by Armed Service as Reported in the Department of Defense’s (DOD) 2016 Biennial Core Report dated May 27, 2016**

<b>Armed Service</b>	<b>Core Capability Requirements (Direct Labor Hours)</b>
Army	10,799,429
Navy	27,676,621
Marine Corps	1,847,189
Air Force	18,246,214
<b>Total DOD</b>	<b>58,569,453</b>

Source: GAO analysis of DOD’s 2016 Biennial Core Report. | GAO-17-81

As requested by OSD to support the Core Report, the armed services also provided data on their planned workloads—the amount of available work used to maintain the required capability, organized by lower-level elements of the eleven first-level categories of the work breakdown structure. In the report, OSD included information on the amount of planned workload that is available to maintain the required capability at the first-level categories of the work breakdown structure, expressed in direct labor hours, and the estimated cost of these workloads for each of the armed services. As shown in table 5, DOD reported a total planned workload of about 93 million direct labor hours at an estimated cost of about \$12 billion.

**Table 5: Planned Workload by Armed Service as Reported in the Department of Defense’s (DOD) 2016 Biennial Core Report dated May 27, 2016**

<b>Armed Service</b>	<b>Planned Workload (Direct Labor Hours)</b>	<b>Estimated Cost of Planned Workload (\$)</b>
Army	14,444,101	\$2,458,814,362
Navy	49,593,605	3,685,920,408
Marine Corps	3,866,843	286,655,888
Air Force	25,490,897	5,579,013,812
<b>Total DOD</b>	<b>93,395,446</b>	<b>\$12,010,404,470</b>

Source: GAO analysis of DOD’s 2016 Biennial Core Report. | GAO-17-81

The Report Included Information on Shortfalls but Did Not Include Mitigation Plans and Detailed Explanations for Some Shortfalls

In the 2016 Core Report, DOD included information on shortfalls; however, DOD did not include mitigation plans and detailed explanations for some of the identified shortfalls. The Air Force identified shortfalls under 1 of the 11 first-level work breakdown structure categories totaling almost 340,000 direct labor hours, as shown in table 6. However, in its Core Report, DOD did not include any shortfalls for the Army, Navy, and Marine Corps at the first-level work breakdown structure categories.

**Table 6: Air Force Shortfalls in Communication/Electronic Equipment Category as Reported in the Department of Defense’s (DOD) 2016 Biennial Core Report dated May 27, 2016 (in direct labor hours)**

Armed Service	Work Breakdown Structure Category	Core Capability Requirement	Planned Workload	Workload Shortfall
Air Force	Communication/Electronic Equipment	675,980	336,424	(339,556)

Source: DOD’s 2016 Biennial Core Report. | GAO-17-81

OSD provided shortfall data in the Core Report consistent with how it reported its core requirements and planned workloads. OSD aggregated the workload shortfalls under the first-level work breakdown structure categories for each armed service in its 2016 Core Report.

DOD partially complied with the third reporting element in Section 2464—to provide rationales and mitigation plans for identified shortfalls. The Core Report included (1) rationales and mitigation plans for all of the shortfalls at the lower-level categories identified by the Marine Corps, (2) rationales for shortfalls at the lower-level categories identified by the Army but not mitigation plans to address all of these shortfalls, and (3) rationales and mitigation plans for some but not all of the shortfalls at the first- and lower-level categories identified by the Air Force. The Core Report did not include rationales or mitigation plans for the Navy, because the Navy did not identify any shortfalls at the first- or lower-level categories. Specifically, the Army identified shortfalls in the lower-level category of Bradley Fighting Vehicle. According to the Army, these shortfalls were due to declining depot repair requirements; however, the Core Report did not provide a mitigation strategy for this identified shortfall. In another example, the Air Force identified shortfalls in the lower-level categories of aircraft airframes, aircraft components, aircraft engines, and missile components, but it did not provide a rationale or a mitigation plan for these shortfalls. Section 2464 requires the armed services to provide a detailed rationale for any and all shortfalls and a plan to either correct or mitigate the shortfall. In the Core Report, DOD did

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not include shortfall rationales and mitigation plans for all of the shortfalls identified by the reporting agencies in the lower-level categories. According to OSD officials, skills, facilities, and equipment are transferrable from one system to another within a work breakdown structure category and could mitigate shortfalls within that same work breakdown structure category. However, DOD did not consistently include in the Core Report these similar capabilities that were used to mitigate the shortfalls. Including this information in the Core Report would provide Congress visibility into whether the armed services' plans would address the causes of the shortfalls. In February 2013, we recommended that DOD improve its Core Report by including detailed explanations of why the armed services did not have the workload to meet core maintenance requirements for each identified shortfall. DOD concurred with this recommendation and stated that it would take steps to implement it but did not implement it fully for its 2016 Core report.

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### DOD's Report Was Not Complete Because Some Data Were Inaccurate

DOD included MDA as a reporting agency in its 2016 Core Report but did not report accurate information for the associated reporting elements. Additionally, the Core Report and reporting agencies' core submission worksheets included some inaccurate data, such as data on workload performed—which has not been identified as a core requirement—inter-service workload, shortfall calculations, and estimated cost of planned workload.

### DOD Included MDA as a Reporting Agency in its 2016 Core Report but Did Not Always Report Accurate Information

While DOD was not required to include information from MDA as part of the Core Report, MDA's information was included in the 2016 Core Report. According to OSD, MDA was included because the BMDS developed by MDA is used to respond to contingency operations and has been identified as a core capability. For its 2016 Core Report, DOD reported on MDA's (1) core requirements, (2) planned workloads, and (3) shortfall rationale and mitigation plan.<sup>21</sup> Specifically, DOD included information from MDA on two of the three reporting elements but did not include the third element, as shown in table 7 below.

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<sup>21</sup>For its 2016 Core Report, DOD included MDA as a reporting agency because, according to OSD, the BMDS developed by MDA is used to respond to contingency operations and has been identified as a core capability. However, because Section 2464 does not require DOD's report to include information from MDA, we used the word "included" instead of "complied" in our assessment of the MDA information.

**Table 7: The Extent to Which the Department of Defense’s (DOD) 2016 Biennial Core Report Included the Reporting Elements for the Missile Defense Agency**

	<b>Required Reporting Elements</b>	<b>GAO Assessment<sup>a</sup></b>
1.	The core depot-level maintenance and repair capability requirements and sustaining workloads, organized by work breakdown structure, expressed in direct labor hours.	Included
2.	The corresponding workloads necessary to sustain core depot-level maintenance and repair capability requirements, expressed in direct labor hours and cost.	Included
3.	In any case where core depot-level maintenance and repair capability requirements exceed or are expected to exceed sustaining workloads, a detailed rationale for any and all shortfalls and a plan either to correct or mitigate the effects of the shortfalls.	Not Included

Source: GAO analysis of DOD’s 2016 Biennial Core Report. | GAO-17-81

Note: <sup>a</sup>Included means that the report explicitly included all parts of the reporting element. Not Included means that the report included none of the reporting element.

In assessing the completeness<sup>22</sup> of the Core Report, we determined that the report included the core requirements information, planned workload and estimated cost, and workload shortfall for MDA, as shown in table 8.

**Table 8: The Elements Reported by the Missile Defense Agency for the Department of Defense’s (DOD) 2016 Biennial Core Report dated May 27, 2016**

<b>Core Requirement (Direct Labor Hours)</b>	<b>Planned Workload (Direct Labor Hours)</b>	<b>Estimated Cost of Planned Workload (\$)</b>	<b>Workload Shortfalls (Direct Labor Hours)</b>
55,723	799	\$68,763,741	54,924

Source: GAO Analysis of DOD’s 2016 Biennial Core Report. | GAO-17-81

However, MDA’s core submission worksheet and the Core Report contained some inaccurate data for the core capability requirement.<sup>23</sup> For example, in the Communication/Electronic Equipment category, DOD reported 39,624 direct labor hours of core requirement, but MDA submitted 0 direct labor hours of core requirement on its core submission worksheet.

As reported in the Core Report, MDA had a total planned workload of 799 direct labor hours and an estimated cost of about \$69,000,000. According to MDA officials, this workload is being performed by the Navy Surface Warfare Center; however, Navy officials stated that the Navy is not identifying this workload on its core submission worksheet. Additionally,

<sup>22</sup>Completeness refers to accurate data and supporting information from the reporting agencies.

<sup>23</sup>In our 2014 report, we recommended that DOD implement improvements to ensure that future Core Reports will be more accurate and complete. [GAO-14-777](#).

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MDA's core submission worksheet and the Core Report contained data inaccuracies in some of the work breakdown categories. For example, in the Sea Ships category, DOD reported 0 direct labor hours of planned workload, but MDA submitted 2,139 direct labor hours of planned workload on its core submission worksheet. In another example, MDA reported the estimated cost of planned workload in several categories but did not report any planned workload in those categories. According to MDA officials, they could not accurately calculate planned workload because MDA does not have any depots.

Further, in the Core Report, DOD identified shortfalls for MDA in each of the categories where MDA reported a core capability requirement. However, according to MDA officials, they could not accurately calculate shortfalls because MDA does not have any depots. For example, in the Ordnance, Weapons, & Missiles category, DOD reported 2,125 direct labor hours of workload shortfalls, but our analysis of MDA's core submission worksheet shows a calculation of 0 direct labor hours of workload shortfalls. According to MDA officials, DOD Instruction 4151.20 requires it to identify workload performed in depots, and MDA does not have any depots. MDA did not complete the core submission worksheet according to DOD Instruction 4151.20, and DOD did not consistently include the data in the Core Report as it was provided by MDA in its core submission worksheet. As a result, the data on MDA in the Core Report contained inaccurate information.

Lastly, MDA did not include a detailed rationale for the shortfalls it identified or a plan to correct or mitigate the effects of these shortfalls. MDA's narrative in the Core Report provided the current status of the BMDS and reported that it used the military departments for operations and support and would continue to coordinate with OSD to conduct comprehensive depot maintenance assessments to meet all reporting requirements. MDA officials told us that they did not provide a detailed rationale for the shortfalls it identified or a plan to correct or mitigate the effects of these shortfalls because they do not own any depots to perform core workload and thus do not have any shortfalls.

OSD provided MDA with DOD Instruction 4151.20 and the tasking memorandum to assist it with completing the core submission worksheets to comply with the reporting requirements. Additionally, according to MDA officials, they received a briefing to assist them in completing their initial core submission worksheet. According to OSD officials, some of the inaccurate data in the Core Report was due to errors in transferring the data from the core submission worksheet to the final Core Report, and

other errors were due to MDA not completing the core submission worksheet according to the instructions provided by OSD because, according to MDA officials, they do not have any depots. However, according to OSD, MDA is responsible for the life-cycle support of the BMDS and currently conducts maintenance through contractors. Therefore, OSD included MDA in the Core Report because the BMDS system has been identified to support a core capability. If DOD decides to continue to include MDA as one of the reporting agencies in future Core Reports, DOD should ensure that the associated data are complete and accurate. We previously recommended that DOD implement improvements to ensure that future Core Reports will be more accurate and complete.<sup>24</sup> DOD concurred with this recommendation and stated that it would take steps to implement it but did not fully do so for its 2016 Core Report.

**Core Report Included Other Inaccuracies due to Lack of Clear Guidance**

DOD’s Core Report and the core submission worksheets provided to OSD to support the Core Report included some inaccurate data. For example, in the Core Report, OSD reported planned workload for the Marine Corps in the Sea Ships category without reporting a core requirement or an estimated cost associated with this workload, as shown in table 9. This additional information caused an anomaly in the Marine Corps’ data in the Core Report.

**Table 9: The Marine Corps Reported Planned Workload in the Sea Ships Category for the Department of Defense’s (DOD) 2016 Biennial Core Report dated May 27, 2016**

<b>Work Breakdown Structure Category</b>	<b>Core Requirement (Direct Labor Hours)</b>	<b>Planned Workload (Direct Labor Hours)</b>	<b>Estimated Cost of Planned Workload (\$)</b>
Sea Ships	0	1,101	0

Source: DOD’s 2016 Core Report. | GAO-17-81

OSD and Marine Corps officials explained that this additional work is conducted by the Marine Corps for the Navy and Coast Guard; however, it is not a core requirement for the Marine Corps. Additionally, according to Marine Corps officials, they did not provide an Estimated Cost of Planned Workload for this work because the work is not considered core. According to OSD officials, these data should not be included in the Core Report. However, in its review of the Core Report, OSD did not correct

<sup>24</sup>[GAO-14-777](#).

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this error.<sup>25</sup> DOD Instruction 4151.20 requires the armed services to calculate and report all planned workload that supports core capability requirements and any additional workload performed at depots. The Marine Corps' data contained this anomaly in the Sea Ships category because DOD Instruction 4151.20 does not provide clear guidance on how reporting agencies should report additional depot workload they performed that has not been identified as a core requirement.

The reporting agencies expressed concerns about the inter-service workload data requested on the core submission worksheets because, as we found, some of the services do not categorize their inter-service workload in the same work breakdown structure category as the service for which they are performing the workload or which is performing workload for them.<sup>26</sup> According to Air Force officials, one service's inter-service transfer-in (workload being performed by another service) may not match another service's inter-service transfer-out (workload given to another service to perform), because the services are not coordinating verification that each service is accounting for inter-service workload in the correct work breakdown structure category. Additionally, MDA is reporting workload being performed by the Navy on MDA systems. However, according to Navy officials, the Navy is not performing any work on MDA systems that are identified as core. DOD Instruction 4151.20 requires the reporting agencies to report inter-service workload as part of their core submission worksheet; however, the instruction does not require the reporting agencies to coordinate on how they are capturing their inter-service workload. The reporting agencies may not be accurately capturing inter-service workload because DOD has not provided any guidance on how they should coordinate to categorize their workload in the same work breakdown structure category.

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<sup>25</sup>In our previous reports, we identified a similar anomaly in the information reported for the Marine Corps in the Sea Ships category. Specifically, in the 2012 Biennial Core Report, the Marine Corps' planned workload for the sea ships category was reported as 15,124 direct labor hours, without any reported cost. Because the estimated cost of this workload was reported as \$0, it was unclear whether the cost of this work was accounted for in DOD's report. OSD officials stated that they noticed the anomaly but that their reporting time constraints precluded them from thoroughly investigating it ([GAO-13-194](#)). Also, in the 2014 Biennial Core Report all of the data in the sea ships category for the Marine Corps were misidentified as core capability requirements and, according to OSD officials, those data were inadvertently included in the 2014 Core Report ([GAO-14-777](#)). See appendix VI for trend data comparing Core Report information from fiscal years 2012 through 2016.

<sup>26</sup>Inter-service workload refers to any workload that one armed service is providing to another armed service.

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Further, the reporting agencies are not calculating or displaying their workload shortfalls consistently. For example, the Army and Air Force calculate and display their shortfalls on the core submission worksheet, while the Navy and Marine Corps' shortfalls are calculated by DOD and not displayed on the core submission worksheet. The Navy and Marine Corps did not calculate or display any shortfalls on their core submission worksheets because, according to Navy and Marine Corps officials, DOD Instruction 4151.20 does not require them to do so. In another example, MDA reported shortfalls in each of the categories where it identified a core capability requirement. However, as we previously mentioned, according to MDA officials, they could not accurately calculate shortfalls because MDA does not have any depots. Also, MDA did not display its shortfalls on the core submission worksheet because DOD Instruction 4151.20 does not require it to do so. The reporting agencies are not calculating or displaying their shortfalls consistently because DOD does not provide the reporting agencies guidance on how to calculate or display their shortfalls.

Additionally, the reporting agencies are not consistently calculating the estimated cost of planned workload as reported in the Core Report. For example, the armed services use the Financial Management Regulation<sup>27</sup> as a basis for calculating their estimated cost of planned workload. Specifically, Air Force officials stated that they calculated the estimated cost of planned workload using rates from the Financial Management Regulation and multiplied those rates by the rate per hour of the repair group category or specific work type. In another example, MDA officials stated that they use the Financial Management Regulation; however, its calculation included private sector maintenance workload and costs for the core planned workload. However, the Core Report should include cost information only for workload performed at military depots, and not workload performed by the private-sector. MDA officials told us that OSD guidance does not explain how to calculate the estimated cost for core planned workloads. OSD provided supplemental guidance as part of its memorandum to the reporting agencies; however, the memorandum stated that the estimated costs of performing the core planned workloads only needed to be identified at the top level of the work breakdown structure. Further, the DOD Instruction 4151.20 template for the core submission worksheet does not include guidance on how to calculate the cost. In the Core Report, MDA's reported estimated cost of planned

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<sup>27</sup>DOD 7000.14-R, *Financial Management Regulation* (June 2011).



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workload may not be accurate, because DOD does not provide guidance to the reporting agencies on how to calculate the estimated cost of performing the planned workloads. However, according to OSD and the armed services, they do not use the estimated cost of planned workload to make budgetary decisions.

According to the *Standards for Internal Control in the Federal Government*, management should design control activities to achieve objectives and respond to risks and they should implement control activities through policies. For example, management should design control activities so that all transactions are completely and accurately recorded. Additionally, management should periodically review policies, procedures, and related control activities for continued relevance and effectiveness in achieving the entity's objectives.<sup>28</sup> An OSD official told us that OSD answered questions the reporting agencies had as they were assembling their information. Further, OSD explained that its internal controls processes include reviewing each reporting agency's information submission for factors such as whether it is consistent with DOD policy and the statute. OSD and reporting agency officials stated that before DOD's final 2016 report was issued, the reporting agencies had the opportunity to review and make any necessary corrections to the report. However, according to an OSD official, when reporting agencies do not comply with DOD instructions—introducing inaccurate information into DOD's reporting—there is no additional guidance to hold the reporting agencies accountable.

The instruction does not provide guidance on how to report additional information to support the Core report, partly because DOD Instruction 4151.20 was issued in 2007, before the biennial reporting requirement in Section 2464 was enacted in 2011. Since DOD Instruction 4151.20 was issued before Section 2464 was enacted, the Instruction does not completely align with the reporting requirements of the law. DOD Instruction 5025.01 provides that instructions published before March 25, 2012 should be updated or cancelled within 10 years of their publication date.<sup>29</sup> Because the instruction has not been aligned with the requirements in Section 2464, reporting agencies do not have the clear

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<sup>28</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#), (Washington, D.C.: September 2014).

<sup>29</sup>Department of Defense Instruction 5025.01, *DOD Issuances Program*, (June 6, 2014).

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guidance they need to ensure that they are submitting data that is accurate and complete.

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## Additional Information Could Increase the Transparency of the Biennial Core Report

While DOD generally reports on the required elements set forth in Section 2464(d), there is additional information on core capabilities that DOD could provide to better inform congressional oversight and funding decisions. Such information could include workload shortfalls at lower-level categories; executed workload in similar categories that could be used to mitigate shortfalls; progress on implementing mitigation plans; data reported at the first-level category of the work breakdown structure, except for when shortfalls are identified; explanations for first-level categories of the work breakdown structure(i.e., Special Interest Items and Other); and whether the core requirements reported in the previous Biennial Core Report have been executed.

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## Additional Information on Workload Shortfalls, Mitigation Plans, and Work Breakdown Structure Categories Could Provide More Transparency in the Core Report

### DOD Could Provide Additional Information on Workload Shortfalls

As stated previously, DOD reported workload shortfalls for the first-level categories of the work breakdown structure in its Core Report. DOD also provided rationales and mitigations plans for some shortfalls that were identified by the reporting agencies at the first- and lower-level categories. However, DOD did not break out workload shortfalls at the lower-level categories of the work breakdown structure in its Core Report. Based on our analysis of service data provided to OSD, we determined that the Navy did not have workload shortfalls at any of the lower-level categories of the work breakdown structure. However, we determined that the Army, Marine Corps, and Air Force did have workload shortfalls for some of the lower-level categories of the work breakdown structure for which they provided information to OSD. Specifically, the Army submitted information to OSD on shortfalls in lower-level categories totaling approximately 200,000 direct labor hours. These shortfalls are in various second and third-level subcategories under the top categories of Aircraft, Ground Vehicles, Support Equipment, and Communication/Electronic Equipment, as shown in table 10. For example, the Army identified about 29,000

direct labor hours of core shortfalls under generators—a subset of the Support Equipment category.

**Table 10: Army Shortfalls in Direct Labor Hours and Work Breakdown Structure**

<b>Work Breakdown Structure Category</b>	<b>Workload Shortfalls at Lower Levels (Direct Labor Hours)</b>
Aircraft	(73,423)
Ground Vehicles	(69,909)
Support Equipment	(28,685)
Communication/Electronic Equipment	(27,557)
<b>Total Army Workload Shortfalls</b>	<b>(199,574)</b>

Source: GAO analysis of DOD data. | GAO-17-81

The Marine Corps identified shortfalls of about 35,000 direct labor hours at lower-level categories within Ordnance, Weapons, and Missiles; Ground Vehicles; and Support Equipment, as shown in table 11. For example, the Marine Corps identified about 18,000 direct labor hours of core shortfalls under Conventional Weapons—a subset of the Ordnance, Weapons, and Missiles category.

**Table 11: Marine Corps Shortfalls in Direct Labor Hours and Work Breakdown Structure**

<b>Work Breakdown Structure Category</b>	<b>Workload Shortfalls at Lower Levels (Direct Labor Hours)</b>
Ordnance, Weapons, and Missiles	(22,774)
Ground Vehicles	(7,070)
Support Equipment	(5,324)
<b>Total Marine Corps Workload Shortfalls</b>	<b>(35,168)</b>

Source: GAO analysis of DOD data. | GAO-17-81

For the Air Force, the report reflects total workload shortfalls of approximately 340,000 direct labor hours at the first-level category of Communication/Electronic Equipment. However, the Air Force also provided information to OSD on additional shortfalls of about 816,000 direct labor hours for lower-level categories in Aircraft; Communication/Electronic Equipment; Ordnance, Weapons, and Missiles; and Other, as shown in table 12. For example, the Air Force identified about 236,000 direct labor hours of shortfalls in missile components—a subset of Ordnance, Weapons, and Missiles.

**Table 12: Air Force Shortfalls in Direct Labor Hours and Work Breakdown Structure**

<b>Work Breakdown Structure Category</b>	<b>Workload Shortfalls at Lower Levels (Direct Labor Hours)</b>
Aircraft	(489,112)
Communications/Electronic Equipment	(363,596)
Ordnance, Weapons, and Missiles	(235,664))
Other <sup>a</sup>	(91,675)
<b>Total Air Force Workload Shortfalls</b>	<b>(1,180,047)</b>

Source: GAO analysis of DOD data. | GAO-17-81

<sup>a</sup>The “other” category includes items such as shelter components, vehicle components, and storage.

According to *Standards for Internal Control in the Federal Government*, management should design control activities to achieve objectives and respond to risks. For example, in determining the level of precision for a control activity, management should consider the level of aggregation. A control activity that is performed at a more granular level generally is more precise than one performed at a higher level.

For the report, OSD aggregated the information on lower-level shortfalls provided by the services to the first-level categories of the work breakdown structure. OSD officials told us that they chose to report at the first-level categories of the work breakdown structure because they believe that extra planned workload in some lower-level categories could make up for shortfalls in the other categories of the work breakdown structure. They noted that skills, facilities, and equipment are transferrable from one system to another within a work breakdown structure category, and that aggregation at higher levels gives a more accurate picture of shortfalls. Therefore, according to officials, they decided not to include these lower-level shortfalls in the report. OSD did not consistently include in the Core Report these similar capabilities that were used to mitigate the shortfalls. OSD officials told us that the data at the first-level category are all the information necessary for oversight. However, DOD obtains these data at the lower-level categories as part of each reporting agencies’ core submission worksheet, and it could readily provide this additional information as part of the Core Report. Reporting the information at the lower-level categories would provide Congress with greater visibility over the core workload shortfalls.

As stated previously, DOD did not consistently include in the Core Report similar capabilities that were used to mitigate the shortfalls. Also, in analyzing data from the reporting agencies on workload executed at the depots, we found that the Army and Navy had workload shortfalls in

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lower-level categories. For example, the Army did not execute sufficient workload to sustain its core capability requirements in Combat Vehicles, a lower-level category of Ground Vehicles. Additionally, the Navy did not execute sufficient workload to sustain its core capability requirements in Surface Combatants/Others, a lower-level category of Sea Ships. As noted above, *Standards for Internal Control in the Federal Government* states that management should consider the level of aggregation. A control activity that is performed at a more granular level generally is more precise than one performed at a higher level. Additionally, management should establish and operate activities to monitor the internal control system and evaluate the results. According to Army and Navy officials, they believe that extra executed workload in the first-level categories (i.e., Ground Vehicles and Sea Ships) could make up for the shortfalls in the lower-level categories (i.e., Combat Vehicles and Surface Combatants/Others). It could benefit Congress to have information in the Core Report on how DOD executed workload in similar capabilities to mitigate shortfalls at lower-level categories.

#### DOD Could Provide Additional Information on Mitigation Plans

While DOD provides in its Core Report mitigation plans to correct the shortfalls it identified, it does not provide information on how prior mitigation plans were implemented to correct shortfalls or an update on the progress of the plans to mitigate shortfalls. For example, in the 2012 Core Report, the Army reported shortfalls in the Ground Vehicles and Support Equipment categories. The Army stated that, as part of its mitigation plan, it would use similar capabilities to correct the shortfalls it identified in both categories. However, the Army did not provide an update in the 2014 or 2016 Core Reports on whether the similar capabilities it used corrected the shortfalls in the Ground Vehicles and Support Equipment categories. In another example, the Marine Corps reported shortfalls in the 2014 Core Report in the category of Communications/Electronic Equipment. The Marine Corps stated that, as part of its mitigation plan, it would establish the capabilities to correct this shortfall within two years and until then would use other sources to mitigate this shortfall. However, the Marine Corps did not provide an update on its mitigation plan in the 2016 Core Report. Similarly, the Air Force reported shortfalls in the 2012, 2014, and 2016 Core Reports in the category of Communications/Electronic Equipment. As part of its mitigation plan to correct this shortfall, the Air Force reported in the 2012, 2014, and 2016 Core Reports that it needed to establish capabilities by 2016. However, the 2014 and 2016 reports did not provide an update on the progress made to establish these capabilities.

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As required in Section 2464, in its core reports, DOD provides mitigation plans laying out how the reporting agencies will correct or mitigate workload shortfalls; however, the statute does not require DOD to provide information on how prior mitigation plans were implemented to correct shortfalls or an update on the progress of the plans. According to Standards for Internal Control in the Federal Government,<sup>30</sup> management should establish and operate activities to monitor the internal control system and evaluate the results. As part of its subsequent Core Reports, Congress could require DOD to provide information on how prior mitigation plans were implemented to correct shortfalls or to provide an update on the progress of the plans. Such granular information would increase visibility for congressional oversight and help increase the transparency of the Core Report.

DOD Could Provide Additional Information on Work Breakdown Structure Categories

Section 2464 does not specify at which level of the work breakdown structure the Core Report information should be reported, only that the information should be organized by work breakdown structure and expressed in direct labor hours. As DOD has done in its previous Core Reports, it could continue providing core data at the first-level category of the work breakdown structure. However, for future core reports, when shortfalls are identified, it could also provide these data at the lower-level categories.

Further, DOD could provide additional information in the Core Report that explains what items are included in two categories of the work breakdown structure: “Special Interest Items” and “Other.” DOD does not specify in the Core Report what types of items are included in these categories. Since the 2012 Core Report, no reporting agency has reported in the “Special Interest Items” category. According to the reporting agencies’ officials, they are unsure of what is included in that category and no guidance has been provided on what should be included in it. On the other hand, since the 2012 Core Report, some of the reporting agencies, including the Army, Navy, Air Force, and MDA have reported in the “Other” category. According to reporting agencies’ officials, some of the weapon systems or equipment included in the “Other” category are rail equipment, Marine Air System Remote Firing Device, Laser Range Finder, shelter components, vehicle components, and storage. Additionally, MDA used the “Other” category to report on the Terminal

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<sup>30</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sep. 10, 2014).

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High Altitude Aerial Defense system, since it did not fit into any of the other categories. As previously stated, according to *Standards for Internal Control in the Federal Government*, management should consider the level of aggregation. A control activity that is performed at a more granular level generally is more precise than one performed at a higher level. However, DOD is not including this additional information, because the statute does not require it. Information about what is included in these two categories could increase visibility to Congress by increasing transparency in the Core Report.

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### DOD Could Provide Information on Whether the Reporting Agencies Are Meeting Core Capability Requirements

DOD could provide information to Congress on whether the reporting agencies are meeting their core capability requirements. Service officials told us that they are using different mechanisms to assess workload executed at the depots, which provide insight on whether they are sustaining their capability to meet their requirements, but that this information is not being reported to OSD or Congress. For example, the

- Army is able to compare executed core workload against the core requirements it reported. The Army uses a reporting tool that tracks the executed core workload against the core requirements for fiscal year 2015, and the report generated with this tool enables it to identify whether the Army is meeting its core capability requirements.
- Navy is able to compare some executed core workload against the core requirements reported in the Core Report. For example, Navy officials provided data on the number of hours executed at shipyards that enabled comparison of executed core workload on sea ships against core requirements identified in the Core Report. The Navy also provided executed workload data for fiscal year 2015 at the Fleet Readiness Centers. According to Navy officials at the Fleet Readiness Centers, they are able to distinguish core executed workloads for first-level categories, such as an aircraft, but unable to do so for components. According to officials, they have sufficient workload data to make management decisions to determine whether they are meeting their core capability requirements.
- Marine Corps officials told us that they do not maintain executed core workload to compare to the core requirements reported in the Core Report. However, according to Marine Corps officials, the Marine Corps' system should enable it to track how the executed workload compares with the reported core requirements.
- Air Force officials told us that they are not able to compare executed core workload to the core requirements reported in the Core Report.

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According to Air Force officials, Air Force systems would not enable a direct comparison, because the work categories tracked by these systems do not align with the work breakdown structure categories in the Core Report. However, Air Force officials stated that they could make general comparisons between executed workload and the Air Force's core requirements.

The reporting agencies are not consistently comparing or reporting whether workload intended to sustain a core capability has been executed, because DOD Instruction 4151.20 does not require them to do so. Moreover, while Section 2464 requires DOD to assign sufficient depot maintenance workload to sustain a core capability, it does not require DOD to determine whether the assigned workload has been executed. As we have previously stated, according to *Standards for Internal Control in the Federal Government*,<sup>31</sup> management should establish and operate activities to monitor the internal control system and evaluate the results. Some of the reporting agencies did not execute sufficient workload to sustain their core capability requirements, and DOD does not provide Congress information on whether a core capability has been sustained. As a result, Congress does not have the information it needs to make well-informed oversight and funding decisions, because it does not know to what extent the reporting agencies possess the core logistics capabilities specified in Section 2464.

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## Conclusions

Section 2464 requires DOD to maintain a core maintenance capability that is government-owned and government-operated, assign sufficient workload to support this capability, and report information on this capability to Congress, among other things. DOD's third Biennial Core Report to Congress complies with most of the required reporting elements but does not provide detailed or complete explanations for all of the identified workload shortfalls, nor does it provide mitigation plans to address these shortfalls. DOD's 2016 Biennial Core Report includes incomplete information on additional depot workload performed that has not been identified as a core requirement, inter-service workload, shortfalls, and the estimated cost of planned workload. This information is incomplete because DOD Instruction 4151.20 is not completely aligned with the requirements in Section 2464 and therefore does not provide clear guidance. Detailed rationales for why the reporting agencies do not

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<sup>31</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sep. 10, 2014).



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have the workload to meet core maintenance requirements and their explanations for how they plan to mitigate the shortfalls would provide information that Congress currently does not have about how the reporting agencies' actions would correct the shortfalls. Additionally, DOD monitors information on whether the reporting agencies are meeting core capability requirements that also could be included in the Biennial Core Reports to increase their transparency. This additional information includes workload shortfalls at lower-level categories; executed workload in similar categories that could be used to mitigate shortfalls; progress on implementing mitigation plans; data reported at the first-level category of the work breakdown structure, except for when shortfalls are identified; explanations for first-level categories (i.e., Special Interest Items and Other) of the work breakdown structure; and whether the core requirements reported in the previous Biennial Core Report have been executed. According to DOD officials, some of these data and information have not been included in the Core Report because they are not required by Section 2464. Such information, if required, has the potential to improve DOD's Biennial Core Report to Congress so that it will better inform oversight and funding decisions.

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## Matter for Congressional Consideration

To increase the transparency of future Biennial Core Reports, Congress should consider amending 10 USC 2464 to require DOD to include information such as (1) workload shortfalls at lower-level categories; (2) executed workload in similar categories that could be used to mitigate shortfalls; (3) progress on implementing mitigation plans; (4) data reported at the first-level category of the work breakdown structure, except for when shortfalls are identified; (5) explanations for first-level categories (i.e., Special Interest Items and Other) of the work breakdown structure; and (6) whether the core requirements reported in the previous Biennial Core Report have been executed.

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## Recommendation for Executive Action

To ensure that DOD's biennial core reporting procedures align with the reporting requirements in Section 2464 and each reporting agency provides accurate and complete information, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology and Logistics to update DOD's guidance—in particular DOD Instruction 4151.20—to require future Biennial Core Reports to include instructions to the reporting agencies on how to (1) report additional depot workload performed that has not been identified as a core requirement, (2) accurately capture inter-service workload, (3) calculate shortfalls, and (4) estimate the cost of planned workload.

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## Agency Comments and Our Evaluation

We provided a draft of this report to DOD for comment. In its written comments, reproduced in appendix VII, DOD concurred with our recommendation and stated that the department will update its instruction to reflect clear guidance on reporting non-core sustaining workloads and accurately capturing inter-service workloads, among other things. Additionally, the department will add a column to the core submission worksheet to include workload shortfalls. The department also provided technical comments, which we incorporated as appropriate.

However, DOD expressed concerns regarding the matter for Congressional consideration, in which we asked Congress to consider amending 10 U.S.C. §2464 to increase the transparency of future Biennial Core Reports by requiring DOD to include information such as (1) workload shortfalls at lower-level categories; (2) executed workload in similar categories that could be used to mitigate shortfalls; (3) progress on implementing mitigation plans; (4) data reported at the first-level category of the work breakdown structure, except for when shortfalls are identified; (5) explanations for first-level categories (i.e., Special Interest Items and Other) of the work breakdown structure; and (6) whether the core requirements reported in the previous Biennial Core Report have been executed. In its response, DOD stated that satisfying these additional reporting requirements would be expensive and labor intensive, for what it believes would be little or no apparent return.

We believe that providing this additional information to improve the transparency of future core reports would not be expensive and labor intensive. This is because DOD already collects some of this information to support the Core Report—but does not report it to Congress. For example, DOD collects workload shortfall data at the lower-level categories, workload executed in similar categories that could be used to mitigate shortfalls, workload data at the first-level category of the work breakdown structure, explanations for the first-level category of “Other”, and information on whether the core requirements reported in the previous Biennial Core Report have been executed. DOD could readily provide this additional information as part of the Core Report. The inclusion of this information has the potential to improve DOD’s Biennial Core Report to Congress so that it will better inform oversight and funding decisions.

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While there is some information that DOD does not already collect, we believe it would also not be expensive or labor intensive to provide to Congress. For example, DOD already provides mitigation plans to correct identified shortfalls and as part of this reporting, it could provide an update on how prior mitigation plans were implemented to correct shortfalls or an update on the progress of the plans. Also, the reporting agencies already provide explanations on what is included in the “Other” category as part of the core submission worksheet, and could do the same for the “Special Interest Items” category. This information could be beneficial to Congress since it could increase the transparency of the Core Report.

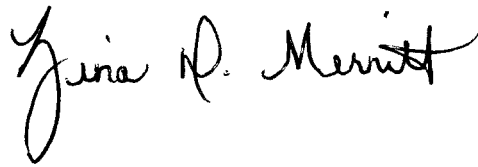
Regarding DOD’s assessment that there would be little or no apparent return from satisfying these additional report requirements, 10 U.S.C. § 2464 requires DOD to assign sufficient depot maintenance workload to sustain a core capability. Information on whether the core requirements reported in the previous Biennial Core Report have been executed would provide information on whether the reporting agencies actually executed their planned workload and therefore possess the core logistics capabilities specified in Section 2464. Requiring DOD to include the recommended information in the Core Report would provide Congress with additional information to make better-informed oversight and funding decisions with respect to DOD’s depot maintenance efforts. Therefore, we continue to believe that our matter for Congressional consideration is valid.

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We are sending copies of this report to the appropriate congressional committees; the Secretary of Defense; the Assistant Secretary of Defense for Logistics and Materiel Readiness; the Secretaries of the Army, Navy, and Air Force and the Commandant of the Marine Corps; the Director, Missile Defense Agency; and other interested parties. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

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If you or your staff have any questions about this report, please contact me at (202) 512-5257 or [merrittz@gao.gov](mailto:merrittz@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix VIII.

A handwritten signature in black ink that reads "Zina D. Merritt". The signature is written in a cursive style with a large initial 'Z' and a distinct 'M'.

Zina D. Merritt  
Director  
Defense Capabilities and Management

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*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 on Defense  
Committee on Appropriations  
House of Representatives

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# Appendix I: Timeline of 10 U.S.C. §2464 and Related GAO Reports

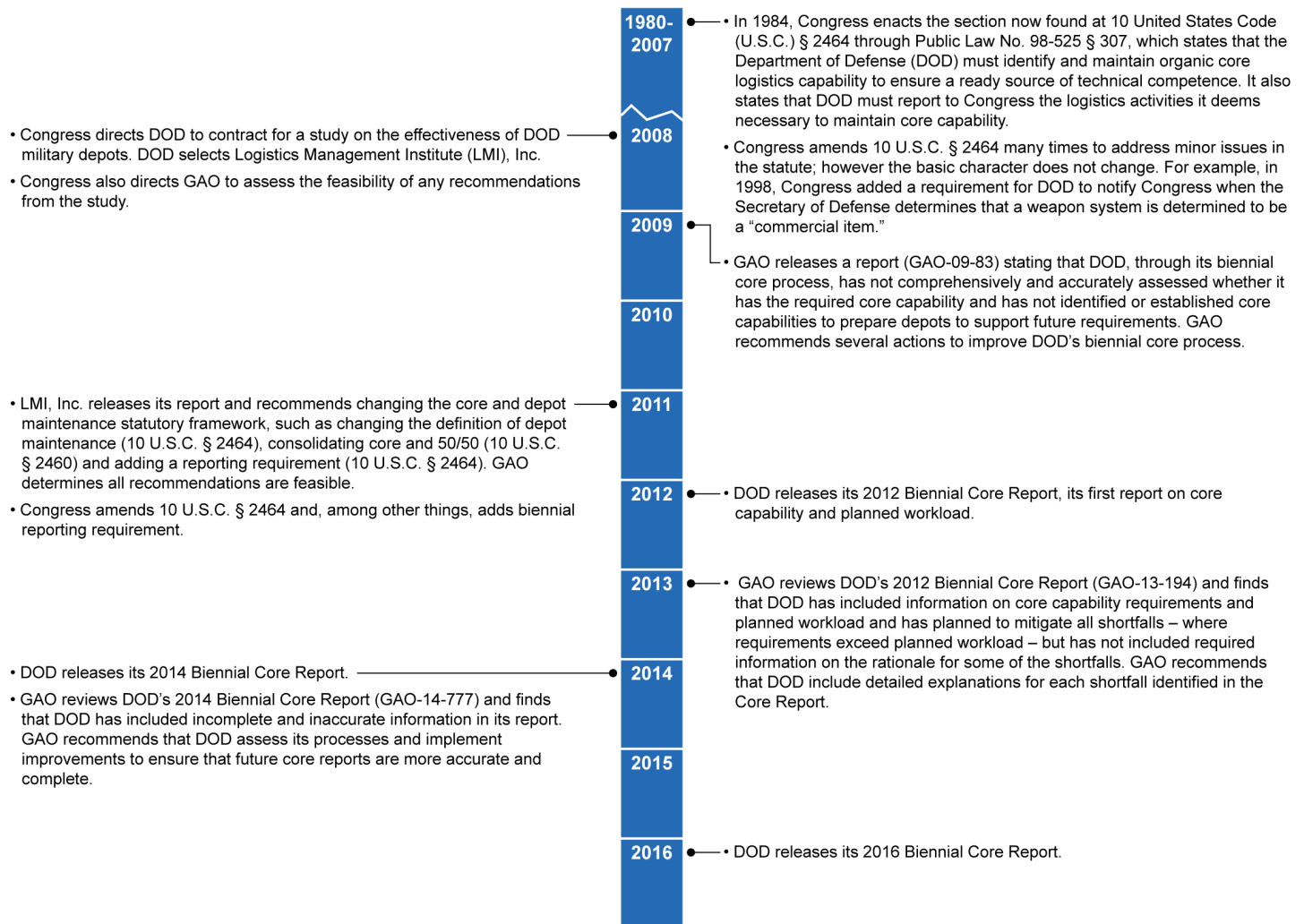
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Congress enacted Core Logistics Capability Requirements in 1984 through Public Law No. 98-525 § 307.<sup>1</sup> Section 2464 of Title 10 of the United States Code was amended many times between the late 1980s and the early 2000s; however, these amendments did not change the basic character of the core capability requirements. Rather, the amendments focused on changing definitions or basic processes. In 2011, Congress added a requirement for DOD to provide a biennial core report. Key changes to the law are illustrated in figure 1 below.

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<sup>1</sup>10 U.S.C. § 2464 was originally codified at 10 U.S.C. § 2304.

Figure 1: Timeline of 10 U.S.C. §2464 and Related GAO Reports



Source: GAO analysis. | GAO-17-81

# Appendix II: GAO Recommendation Follow-up

During the review of DOD's 2016 Biennial Core Report, we followed up on two recommendations from our prior reports. As outlined in table 13 below, based on our review, we determined that DOD has partially addressed both of these recommendations but needs to take additional steps to fully address both recommendations.

**Table 13: Recommendation Follow-Up for GAO Reports Reviewing DOD's 2012 and 2014 Biennial Core Reports**

GAO Report and Recommendation	Status of Recommendation
<p><i>Depot Maintenance: Accurate and Complete Data Needed to Meet DOD's Core Capability Requirements (GAO-14-777)</i></p> <p><b>Recommendation:</b> To help ensure that DOD's future submissions of the Biennial Core Report will be more accurate and complete, we recommend that the Secretary of Defense direct the Assistant Secretary of Defense for Logistics and Materiel Readiness to assess the review processes and implement needed improvements.</p>	<ul style="list-style-type: none"> <li>• <b>DOD Action:</b> DOD has reviewed the processes for developing and issuing the Biennial Core Report and has identified two corrective actions: (1) issue the tasking memorandum for the services to submit their input for the Biennial Core Report in October instead of December. This extra time will allow for a more thorough review by OSD of service data to verify completeness and accuracy and (2) require each service to include a certification by a General/Flag Officer or Senior Executive Service member certifying that the service's data are complete and accurate.</li> <li>• <b>DOD Assessment:</b> As of August 10, 2015, DOD considered this recommendation open, with action to be taken in the 2016 Biennial Core Report.</li> <li>• <b>GAO Assessment:</b> Partially Addressed. Although DOD took the recommended actions, our review of the 2016 Biennial Core Report shows that additional process improvements and guidance should be implemented to ensure that future core reports are complete and accurate.</li> </ul>
<p><i>Depot Maintenance: Additional Information Needed to Meet DOD's Core Capability Reporting Requirements (GAO-13-194)</i></p> <p><b>Recommendation:</b> To ensure that Congress has visibility over the status of DOD's core depot-level maintenance and repair capability, we recommend that the Secretary of Defense direct the Deputy Assistant Secretary of Defense (Maintenance, Policy, and Programs) to include in the Biennial Core Report to Congress detailed explanations for why services do not have the workload to meet core maintenance requirements for each shortfall identified in the report.</p>	<ul style="list-style-type: none"> <li>• <b>DOD Action:</b> DOD stated that it would include an explanation and mitigation plan for each workload shortfall in the Biennial Core Report that was to be submitted to Congress by April 1, 2014, as required by Title 10 USC 2464(d).</li> <li>• <b>DOD Assessment:</b> As of December 4, 2013, DOD considered this recommendation closed and implemented.</li> <li>• <b>GAO Assessment:</b> Partially Addressed. Although DOD included detailed explanations and mitigation plans for some of the shortfalls identified in the 2014 and 2016 Biennial Core Reports, DOD did not include explanations for each identified shortfall in these reports, as required by Title 10 USC 2464(d).</li> </ul>

Source: GAO analysis. | GAO-17-81



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# Appendix III: Scope and Methodology

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To determine the extent to which DOD’s 2016 Biennial Core Report complies with Section 2464(d), we analyzed the text of the report and obtained supporting information on the process by which DOD identified its core capability requirements and the workload needed to support its core maintenance capability for fiscal year 2017. Two GAO analysts independently reviewed DOD’s report to determine the extent to which it addressed each element required by the mandate. All initial disagreements between the two GAO analysts were discussed and resolved through consensus. For the armed services, when the report explicitly included all parts of the required element provided by each service, we determined that DOD had “complied” with the element. When the report did not explicitly include any part of the element from any of the services, we determined that DOD “did not comply” with the element. If the report included some aspects of an element, but not all, for one or more of the services, then we determined that DOD “partially complied” with the element. For the Missile Defense Agency (MDA),<sup>1</sup> when the report explicitly included all parts of the required element provided by MDA, we determined that DOD “included” the element. When the report did not explicitly include any part of the element provided by MDA, we determined that DOD “did not include” the element. If the report included some aspects of an element provided by MDA, but not all, then we determined that DOD “partially included” the element. We compared the types of information and data provided by each of the armed services and MDA to the data that the Office of the Secretary of Defense (OSD) included in its final 2016 Biennial Core Report, to assess consistency. We also discussed our preliminary analyses with OSD and with armed services and MDA officials to seek additional information.

To assess the report’s completeness, we obtained and analyzed fiscal year 2017 data—including core capability requirements and planned workload expressed in direct labor hours—and costs and other information, such as workload shortfall explanations, that OSD required the reporting agencies to provide in support of the report. We compared the reporting agencies’ submissions to the reporting template in DOD Instruction 4151.20,<sup>2</sup> in order to determine the extent to which the

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<sup>1</sup>Our compliance assessment includes only the armed services, because Section 2464 requires DOD to include in its report information for each of the armed services. MDA is not included in the compliance assessment because MDA is not an armed service and, as such, Section 2464 does not require DOD’s report to include information from MDA.

<sup>2</sup>DOD Instruction 4151.20, *Depot Maintenance Core Capabilities Determination Process* (Jan. 5, 2007).

reporting agencies submitted the information required by DOD's instruction, and we identified any inconsistencies or errors. We conducted data-reliability assessments on the data that were provided by the reporting agencies to OSD to support their submissions for the Biennial Core Report in order to determine if these data and information were complete. We performed a number of steps to compare and reconcile the data that OSD included in the final Biennial Core Report. These steps included (1) ensuring that each reporting agency consistently reported the direct labor hours identified as the total adjusted requirements and the workload needed to sustain depot maintenance core capability requirements; (2) reconciling the information in the report against each reporting agencies' submission for accuracy; (3) comparing and contrasting DOD's 2016 report against its 2012 and 2014 Biennial Core Reports to determine whether there were noticeable changes in the data for specific categories; and (4) evaluating each reporting agencies' submission to verify that the information reported for each work breakdown structure category and associated subcategory level was computed correctly and contained data for those requirements and the armed service's corresponding workload. In addition, we interviewed OSD and reporting agencies' officials and discussed our analyses, which led us to conclude that the data were sufficiently reliable for the purposes of this report. We also met with OSD and reporting agency officials responsible for overseeing the data collection and preparing the data submissions, to obtain clarification and understanding of the content of the submissions. We assessed the accuracy and completeness of the information in DOD's 2016 Biennial Core Report with criteria outlined in *Standards for Internal Control in the Federal Government* and DOD Instruction 4151.20.<sup>3</sup>

To identify potential changes to 10 U.S.C. §2464(d) that could increase the transparency of future Biennial Core Reports, we reviewed DOD's guidance, 10 U.S.C. §2464(d), and *Standards for Internal Control in the Federal Government* to determine what additional information OSD could provide in its report and what changes could be made to improve the report. Lastly, we interviewed OSD and officials from the reporting agencies who were responsible for the core submission to identify any additional information that could be included in the Core Report and what changes could be made to improve the law or DOD's guidance.

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<sup>3</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#), (Washington, D.C.: September 2014) and DOD Instruction 4151.20, *Depot Maintenance Core Capabilities Determination Process* (Jan. 5, 2007).

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We conducted this performance audit from June 2016 to November 2016 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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# Appendix IV: Core Capability Determination Process

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DOD Instruction 4151.20 prescribes a “core capability determination process”<sup>1</sup>—procedures to identify required core depot maintenance capabilities and “sustaining workloads”<sup>2</sup>—the workloads required to sustain these capabilities. The instruction describes a methodology for DOD components<sup>3</sup> to compute their core capability requirements and to identify the associated workloads needed to sustain these required capabilities. The process is illustrated in figure 2.

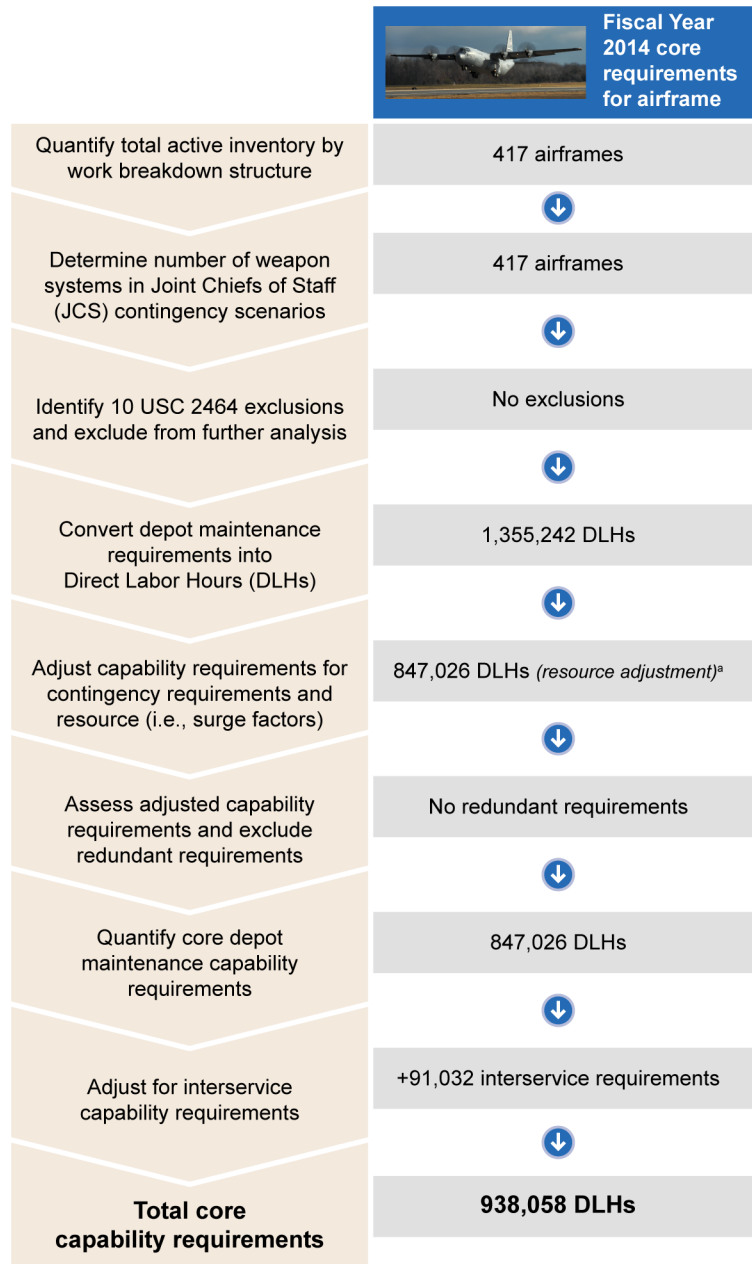
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<sup>1</sup>DOD Instruction 4151.20, *Depot Maintenance Core Capabilities Determination Process* (Jan. 5, 2007).

<sup>2</sup>We refer to what DOD calls “sustaining workload” as “planned workload to support core capabilities” or “planned workload.”

<sup>3</sup>DOD Instruction 4151.20 defines DOD components as the military departments and those Defense Agencies that perform depot maintenance.

Figure 2: Core Capability Determination Process



Source: GAO analysis of Department of Defense Instruction 4151.20. | GAO-17-81

<sup>a</sup>Resource adjustment refers to the number of direct labor hours that were added or subtracted to “adjust” the amount of that resource (i.e., personnel, materiel, and other assets or capabilities).

# Appendix V: Category Levels from DOD's Depot Maintenance Core Capability Worksheet

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## Work Breakdown Structure Category

### 1. Aircraft

#### 1.1 Airframes

1.1.1 Rotary

1.1.2 Vertical/Short Take-Off and Landing

1.1.3 Cargo/Tanker

1.1.4 Fighter/Attack

1.1.5 Bomber

1.1.6 Aircraft – Other

#### 1.2 Aircraft Components

1.2.1 Dynamic Components

1.2.2 Hydraulic/Pneumatic

1.2.3 Instruments

1.2.4 Landing Gear

1.2.5 Aviation Ordnance

1.2.6 Avionics/Electronics

1.2.7 Auxiliary Power Units

1.2.8 Other

#### 1.3 Aircraft Engines

### 2. Ground Vehicles

2.1 Combat Vehicles

2.2 Amphibious Vehicles

2.3 Tactical (wheeled) Vehicles

2.4 Construction Equipment

### 3. Sea Ships

3.1 Aircraft Carriers

3.2 Submarines

3.3 Surface Combatants/Others

### 4. Communication/Electronic Equipment

4.1 Radar

4.2 Radio

4.3 Wire

4.4 Electronic Warfare

4.5 Navigational Aids

4.6 Electro-Optics/Night Vision

4.7 Crypto

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**Appendix V: Category Levels from DOD's  
Depot Maintenance Core Capability Worksheet**

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- 
- 4.8 Computers
  - 4.9 Other
  - 5. Support Equipment
    - 5.1 Ground Support Equipment
    - 5.2 Generators
    - 5.3 Test, Measurement, and Diagnostic Equipment
    - 5.4 Calibration
    - 5.5 Other
  - 6. Ordnance, Weapons, & Missiles
    - 6.1 Nuclear Weapons
    - 6.2 Chemical Weapons
    - 6.3 Biological Weapons
    - 6.4 Conventional Weapons
    - 6.5 Explosives
    - 6.6 Small Arms/Personal Weapons
    - 6.7 Strategic Missiles
    - 6.8 Tactical Missiles
  - 7. Software
    - 7.1 Weapon System
    - 7.2 Support Equipment
  - 8. Fabrication/Manufacturing
  - 9. Fleet/Field Support
  - 10. Special Interest Items
  - 11. Other
- 

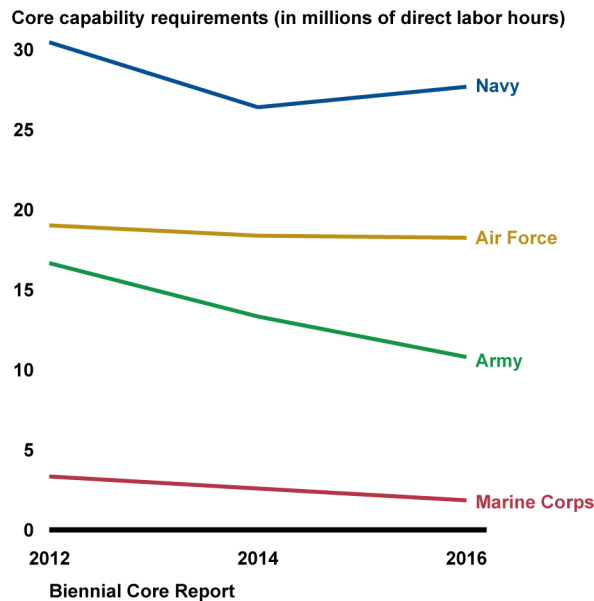
Source: DOD Instruction 4151.20. | GAO-17-81

# Appendix VI: Variations in DOD's 2012, 2014, and 2016 Biennial Core Reports

Each armed service reported variations in its core capability requirements, planned workload, estimated cost of planned workload, and workload shortfalls, as reported in the fiscal years 2012, 2014, and 2016 Core Reports, as shown in figures 3, 4 and 5.<sup>1</sup> These variations occurred in different work breakdown structure categories for each armed service.

## Core Capability Requirements

**Figure 3: Changes in the Armed Services' Total Core Capability Requirements from the Fiscal Year 2012 to the Fiscal Year 2016 Core Reports**



Source: GAO analysis of Department of Defense data. | GAO-17-81

Based on our analysis of the Core Reports, DOD's overall core capability requirements have decreased from fiscal year 2012 (about 69.5 million direct labor hours) to fiscal year 2016 (about 58.6 million direct labor hours). The changes in the armed services' core capability requirements, as shown in figure 3, have varied. For example, the

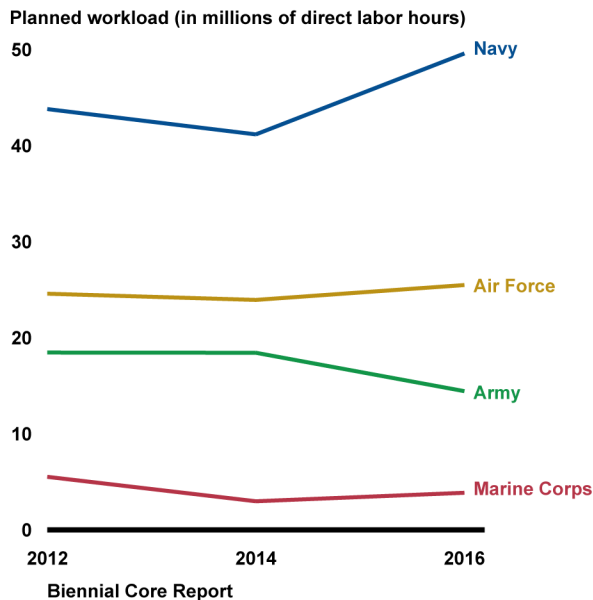
<sup>1</sup>The Missile Defense Agency's (MDA) data were not included, because the agency's first reporting occurred in fiscal year 2016; therefore there are no data available for the previous two reporting cycles (fiscal years 2012 and 2014).



- **Army's** requirements decreased from fiscal year 2012 (about 16.7 million direct labor hours) to fiscal year 2016 (about 10.8 million direct labor hours). This decrease of about 6 million direct labor hours was mostly in Aircraft, Ground Vehicles, and Communication/ Electronic Equipment. According to the Army, this decrease was a result of changes in the force structure (i.e., a decrease in Army equipment inventories) and changes in the war-fighting scenarios.
- **Navy's** requirements decreased from fiscal year 2012 (about 30.5 million direct labor hours) to fiscal year 2014 (about 26.4 million direct labor hours), then increased in fiscal year 2016 (about 27.7 million direct labor hours). According to Navy officials, these changes occurred mostly in the category of Aircraft, specifically aircraft components. Navy officials stated that these changes correspond to changes in the Navy's inventory of platforms and weapon systems.
- **Marine Corps'** requirements decreased from fiscal year 2012 (about 3.3 million direct labor hours) to fiscal year 2016 (about 1.8 million direct labor hours). This decrease of about 1.5 million direct labor hours was mostly in Ground Vehicles. According to the Marine Corps, this decrease was due to changes in the methodology (i.e., resource adjustments and aligning the work breakdown structure categories) and changes in the table of equipment used for contingency scenarios.
- **Air Force's** requirements decreased from fiscal year 2012 (about 19.0 million direct labor hours) to fiscal year 2016 (about 18.2 million direct labor hours). This decrease of about 800,000 direct labor hours was mainly in the category of Aircraft. According to Air Force officials, the Air Force's aircraft inventory has been decreasing over the last decade, which means there are fewer core requirements.

## Planned Workload

**Figure 4: Changes in the Armed Services' Total Planned Workload from the Fiscal Year 2012 to the Fiscal Year 2016 Core Reports**



Source: GAO analysis of Department of Defense data. | GAO-17-81

Based on our analysis of the Core Reports, DOD's overall planned workload remained relatively the same from fiscal year 2012 (about 92.4 million direct labor hours) to fiscal year 2016 (93.4 million direct labor hours). However, the planned workload decreased in fiscal year 2014 (about 86.5 million direct labor hours). The changes in the armed services' planned workload, as shown in figure 4, varied by service. For example, the

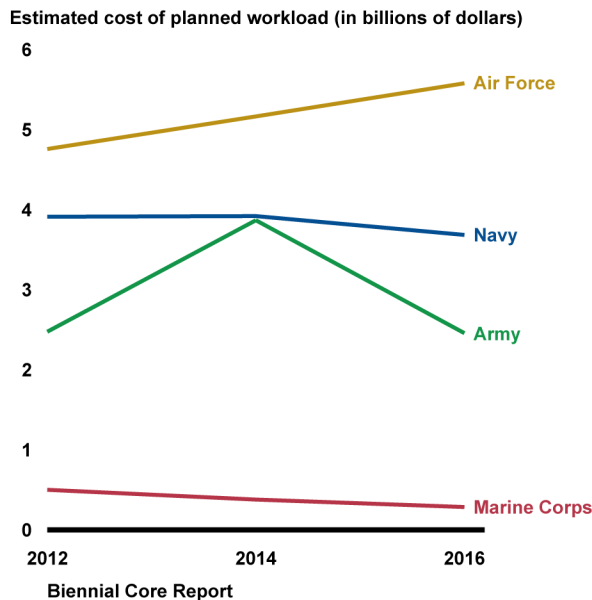
- **Army's** planned workload decreased from fiscal year 2012 (about 18.5 million direct labor hours) to fiscal year 2016 (about 14.4 million direct labor hours). This decrease of about 4.1 million direct labor hours was in the category of Aircraft and Communication/Electronic Equipment and corresponds with the decrease in its core capability requirement.
- **Navy's** planned workload decreased from fiscal year 2012 (about 43.8 million direct labor hours) to fiscal year 2014 (about 41.2 million direct labor hours) and increased in fiscal year 2016 (about 49.6 million direct labor hours). The changes in planned workloads are

attributable mainly to a decrease in the category of Aircraft and an increase in workloads for Sea Ships. Navy officials stated that these changes correspond to changes in the Navy's inventory of platforms and weapon systems.

- **Marine Corps'** planned workload decreased in fiscal year 2012 (about 5.5 million direct labor hours) and fiscal year 2014 (about 3.0 million direct labor hours) and increased in fiscal year 2016 (about 3.9 million direct labor hours). The decrease of about 2.5 million direct labor hours from fiscal year 2012 to fiscal year 2014 and the increase of about 900,000 direct labor hours from fiscal year 2014 to fiscal year 2016 were due to changes in both requirements and workload, according to Marine Corps officials.
- **Air Force's** planned workload decreased from fiscal year 2012 (about 24.6 million direct labor hours) to fiscal year 2014 (about 23.9 million direct labor hours), and increased in fiscal year 2016 (about 25.5 million direct labor hours). According to Air Force officials, the decrease of about 700,000 direct labor hours from fiscal year 2012 to fiscal year 2014 was due to a decrease in the Air Force's aircraft inventory and a decrease in core requirements and the increase of about 1.6 million direct labor hours from fiscal year 2014 to fiscal year 2016 was in the category of Communication/Electronic Equipment and Software and corresponds to an increase in core requirements in these categories.

## Estimated Cost of Planned Workload

**Figure 5: Changes in the Armed Service's Total Estimated Cost of Planned Workload from the Fiscal Year 2012 to the Fiscal Year 2016 Core Reports**



Source: GAO analysis of Department of Defense data. | GAO-17-81

Based on our analysis of the Core Reports, DOD's overall estimated cost of planned workload increased from fiscal year 2012 (about \$11.6 billion) to fiscal year 2014 (about \$13.3 billion) and then decreased in fiscal year 2016 (about \$12.0 billion). The changes in the armed services' estimated cost of planned workload, as shown in figure 5, varied by service. For example, the

- **Army's** estimated cost of planned workload increased from fiscal year 2012 (about \$2.5 billion) to fiscal year 2014 (about \$3.9 billion) and decreased in fiscal year 2016 (about \$2.5 billion). These changes occurred mostly in the categories of Aircraft, Ground Vehicles, and Communication/Electronic Equipment. According to Army officials, the change in costs corresponds to changes in core requirements.
- **Navy's** estimated cost of planned workload stayed about the same for fiscal year 2012 (about \$3.9 billion), fiscal year 2014 (about \$3.9 billion) and fiscal year 2016 (about \$3.7 billion). Navy officials stated that any variances were due to inflationary changes in the composite rates used to calculate the costs.

- 
- **Marine Corps'** estimated cost of planned workload decreased from fiscal year 2012 (about \$502 million) to fiscal year 2016 (about \$287 million). This decrease of about \$215 million was mostly in the category of Ground Vehicles. Marine Corps officials stated that this decrease is due to changes in the annual composite billing rates and is consistent with the changes in the core requirements.
  - **Air Force's** estimated cost of planned workload increased from fiscal year 2012 (about \$4.8 billion) to fiscal year 2016 (about \$5.6 billion). The increase of about \$800 million was due to increases in the rates used to calculate these costs and a change in workload.

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## Workload Shortfalls

Shortfalls exist when the core capability requirement exceeds or is expected to exceed planned workload. At the first-level category of the work breakdown structure, for example, the

- **Army** reported shortfalls in fiscal year 2012 in the categories of Ground Vehicles (869,547 direct labor hours) and Support Equipment (112,462 direct labor hours). No shortfalls were reported in fiscal years 2014 and 2016.
- **Navy** reported no shortfalls for fiscal years 2012, 2014, or 2016.
- **Marine Corps** identified shortfalls in fiscal year 2014 in the category of Communication/ Electronic Equipment (144,535 direct labor hours). No shortfalls were reported in fiscal years 2012 or 2016.
- **Air Force** reported shortfalls in fiscal years 2012 (260,698 direct labor hours), 2014 (388,063 direct labor hours), and 2016 (339,556 direct labor hours) in the category of Communication/Electronic Equipment. According to Air Force officials, the decrease in the Communication/Electronic Equipment shortfall was a result of some airplane models retiring and therefore no longer requiring maintenance and repair. Additionally, the Air Force reported a shortfall in fiscal year 2012 (143,280 direct labor hours) in the category of Ordnance, Weapons, & Missile but did not report this shortfall in fiscal years 2014 or 2016.

# Appendix VII: Comments from the Department of Defense



LOGISTICS AND  
MATERIEL READINESS

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE  
3500 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3500

NOV 4 2016

Ms. Zina Merritt  
Director, Defense Capabilities and Management  
U.S. Government Accountability Office  
441 G Street, NW  
Washington DC 20548

Dear Ms. Merritt:

Enclosed is the Department of Defense (DoD) response to the GAO Draft Report GAO-17-81, "DEPOT MAINTENANCE: Improvements to DOD's Biennial Core Report Needed to Better Inform Oversight and Funding Decisions," dated October 4, 2016 (GAO Code 100815).

The Department is providing official written comments for inclusion in the report. Additionally, the Department is concerned with the section titled, "Matter for Congressional Consideration," which recommends new legislation that adds more reporting requirements. To satisfy the report requirements would be expensive and labor intensive, with what we believe is of little or no apparent return.

Sincerely,

A handwritten signature in black ink, appearing to read "Kristin K. French".

Kristin K. French  
Principal Deputy  
Performing the Duties of the ASD(L&MR)

Enclosure:  
As stated

GAO DRAFT REPORT DATED OCTOBER 4, 2016  
GAO-17-81 (GAO CODE 100815)

“DEPOT MAINTENANCE: IMPROVEMENTS TO DOD’S BIENNIAL CORE REPORT  
NEEDED TO BETTER INFORM OVERSIGHT AND FUNDING DECISIONS”

DEPARTMENT OF DEFENSE COMMENTS  
TO THE GAO RECOMMENDATION

**RECOMMENDATION:** To ensure that DOD’s biennial core reporting procedures align with the reporting requirements in Section 2464 and each reporting agency provides accurate and complete information, the GAO recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology and Logistics to update DOD’s guidance – in particular DOD Instruction 4151.20 – for future biennial core reports to include instructions to the reporting agencies on how to (1) report additional depot workload performed that has not been identified as a core requirement; (2) accurately capture inter-service workload; (3) calculate shortfalls; and (4) estimate cost of planned workload.

**DoD RESPONSE:** Concur. The Department will update DOD Instruction 4151.20 to reflect clear guidance on reporting non-core sustaining workloads, accurately capture inter-service workloads and direct the use of DoD 7000.14-R, Financial Management Regulation when estimating costs. Additionally, we will add a column to the worksheet indicating workload shortfalls.

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# Appendix VIII: GAO Contact and Staff Acknowledgments

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## GAO Contact

Zina Merritt, (202) 512-5257 or [merrittz@gao.gov](mailto:merrittz@gao.gov).

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## Staff Acknowledgments

In addition to the contact named above, Carleen Bennett, Assistant Director; Clarine Allen; Chaneé Gaskin; Ashley Houston; Joanne Landesman; Amie Lesser; Jim Melton; Alexandra Rouse; Michael Silver; and Sabrina Streagle made key contributions to this report.



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# Related GAO Products

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*Depot Maintenance: Accurate and Complete Data Needed to Meet DOD's Core Capability Requirements.* [GAO-14-777](#). Washington, D.C.: September 18, 2014.

*Depot Maintenance: Additional Information Needed to Meet DOD's Core Capability Reporting Requirements.* [GAO-13-194](#). Washington, D.C.: February 11, 2013.

*Defense Logistics: DOD Input Needed on Implementing Depot Maintenance Study Recommendations.* [GAO-11-568R](#). Washington, D.C.: June 30, 2011.

*Depot Maintenance: Actions Needed to Identify and Establish Core Capability at Military Depots.* [GAO-09-83](#). Washington, D.C.: May 14, 2009.

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