

**GAO**

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

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May 2010

# DEPOT MAINTENANCE

## Improved Strategic Planning Needed to Ensure That Air Force Depots Can Meet Future Maintenance Requirements



**GAO**

Accountability \* Integrity \* Reliability

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Highlights of [GAO-10-526](#), a report to the Subcommittee on Readiness, Committee on Armed Services, House of Representatives

## Why GAO Did This Study

The Air Force's maintenance depots provide critical support to ongoing operations around the world. Previously, the Department of Defense's (DOD) increased reliance on the private sector for depot maintenance support, coupled with downsizing, led to a general deterioration in the capabilities, reliability, and cost-effectiveness of the military services' depots. In March 2007, the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics (OUSD (AT&L)) directed each service to submit a depot maintenance strategic plan and provided direction for the content of those plans. The Air Force issued two documents in response to this direction—a Strategy and a Master Plan. GAO used qualitative content analyses to determine the extent to which the Air Force's collective plan addresses (1) key elements of a results-oriented management framework and (2) OUSD's (AT&L) direction for the plan's content.

## What GAO Recommends

GAO is recommending that the Air Force revise its plan to fully and explicitly address all elements of a results-oriented management framework, show clear linkages between the two components of the plan, and fully and explicitly address OUSD (AT&L) direction; and both OUSD (AT&L) and the Air Force develop and implement oversight procedures to review revisions of the plan. DOD concurred with our recommendations.

View [GAO-10-526](#) or [key components](#). For more information, contact Jack Edwards at (202) 512-8246 or [edwardsj@gao.gov](mailto:edwardsj@gao.gov).

## DEPOT MAINTENANCE

### Improved Strategic Planning Needed to Ensure That Air Force Depots Can Meet Future Maintenance Requirements

#### What GAO Found

While the Air Force plan focuses efforts on weapon system and equipment operational availability, it does not fully address the elements of a results-oriented management framework, nor does it clearly link information between the plan's two component documents. GAO's prior work has shown that seven elements of a results-oriented management framework are critical for comprehensive strategic planning. The plan fully addresses one of these elements by including a mission statement that summarizes the Air Force depots' major functions and operations, but it partially addresses or does not address the remaining six elements. For example, while the plan describes goals for the depots' mission-related functions, it does not provide time frames to achieve them. Additionally, the plan does not discuss any factors beyond the Air Force's control that could affect its ability to achieve the plan's goals nor does it identify how the Air Force will evaluate its programs and use the results of such evaluations to adjust the plan's long-term goals and strategies to achieve desired levels of performance. Moreover, the content of the plan's two component documents are not clearly linked to one another. For example, the goals listed in the Strategy are not clearly repeated in the Master Plan, and the Master Plan includes goals that are unrelated to depot maintenance. Nor does the Master Plan clearly align its content to the five long-term goals described in the Strategy. The plan does not fully address the elements of a results-oriented management framework and the plan's two documents are not clearly linked to one another in part because of weaknesses in oversight. Specifically, although OUSD (AT&L) established an oversight body, which included senior representatives from OUSD (AT&L) and the services, to review the services' plans, this body did not review the plan. Also, the Air Force did not establish an oversight mechanism to review its plan. The plan's weaknesses may limit the Air Force's ability to use its plan as a tool to meet future challenges.

In addition, the Air Force plan is not fully responsive to OUSD's (AT&L) direction to the services that was designed to provide the services with a framework to meet future challenges. OUSD (AT&L) directed the services to address 10 specific issues in four general areas: logistics transformation, core logistics capability assurance, workforce revitalization, and capital investment. The plan partially addresses 8 of these issues and does not address the remaining two. For example, while the plan notes that the Air Force is partnering with local universities and technical schools to provide training to reengineer existing employees' skills, the plan does not address Air Force actions to identify new and emerging skill requirements, as directed. Furthermore, the plan does not discuss any benchmarks to evaluate the adequacy of investment funding, as directed. As discussed for the elements of a results-oriented management framework, the plan does not fully respond to OUSD (AT&L)'s direction for the plan's content in part because of weaknesses in oversight in both OUSD (AT&L) and the Air Force. The plan's shortcomings may limit the Air Force's assurance that its depots are postured and resourced to meet future maintenance challenges.

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United States Government Accountability Office  
Washington, DC 20548

May 14, 2010

The Honorable Solomon Ortiz  
Chairman  
The Honorable J. Randy Forbes  
Ranking Member  
Subcommittee on Readiness  
Committee on Armed Services  
House of Representatives

The Air Force's three maintenance depots provide equipment repair and sustainment services that are critical to supporting ongoing operations around the world. Prior to the onset of military operations in Iraq and Afghanistan, the Department of Defense's (DOD) increased reliance on the private sector for depot maintenance support—coupled with declining budgets, downsizing, and consolidations as a result of previous Base Realignment and Closure Act (BRAC) decisions—led to a decline in maintenance workloads for the depots and contributed to the general deterioration of capabilities, reliability, and cost-effectiveness of military depots. Downsizing efforts also affected the depots' abilities to obtain investments in facilities, equipment, and human capital to support their long-term viability and to ensure that they remained a key resource for repair of new and modified systems. In 2001, DOD identified performance-based logistics<sup>1</sup> as its preferred support strategy, further increasing reliance on contractors to support many of its weapon systems.

In 2003 and again in 2006, the House Armed Services Committee encouraged DOD to develop a comprehensive depot maintenance strategy.<sup>2</sup> In March 2007, the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics (OUSD (AT&L)) issued DOD's depot maintenance strategic plan, which articulated the department's strategy for posturing and resourcing the depots to meet the national security and materiel readiness challenges of the 21st century. In March 2007, the Office of the Deputy Under Secretary of Defense for Logistics

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<sup>1</sup>Performance-based logistics refers to the purchase of performance outcomes, such as the availability of functioning weapon systems, through long-term support arrangements rather than the purchase of individual elements of support—such as parts, repairs, and engineering services.

<sup>2</sup>H.R. Rept. No. 108-106, p. 304 (2003); H.R. Rept. No. 109-452, p. 296 (2006).

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and Materiel Readiness, within OUSD (AT&L), directed each of the services to conduct strategic planning for depot maintenance and submit plans that focus on achieving DOD's strategy.<sup>3</sup> In response, the Air Force published its Air Force Depot Maintenance Strategic Plan, known as the Strategy, in April 2008. In addition, it published the Air Force Depot Maintenance Master Plan, known as the Master Plan, in March 2009. According to Air Force officials, these two documents collectively respond to OUSD (AT&L)'s direction. DOD's 2007 Depot Maintenance Strategy and Implementation Plans also noted that the services would update their depot maintenance strategic plans no later than 6 months after the publication of an updated DOD depot maintenance strategic plan, which will be published within 6 months of the publication of the February 2010 Quadrennial Defense Review Report.<sup>4</sup>

Our prior work has shown that organizations conducting strategic planning need to develop a comprehensive, results-oriented management framework to provide an approach whereby program effectiveness is measured in terms of outcomes or impact, rather than outputs, such as activities and processes.<sup>5</sup> Such a framework includes seven critical elements: a comprehensive mission statement; long-term goals; strategies to achieve the goals; use of metrics to gauge progress; identification of key external factors that could affect the achievement of the goals; a description of how program evaluations will be used; and stakeholder involvement in developing the plan. In its March 2007 call for strategic plans, OUSD (AT&L) directed the services to address many of these same elements in their strategic plans. In addition, OUSD (AT&L) directed the services to address 10 specific issues in four general areas: logistics transformation, core logistics capability assurance, workforce revitalization, and capital investment. OUSD (AT&L) officials told us that the direction in these four areas was designed to provide the services' plans with a framework to meet future challenges.

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<sup>3</sup>OUSD (AT&L) outlined the military services' depot maintenance strategic planning responsibilities in its Report to Congress. See DOD, *Depot Maintenance Strategy and Implementation Plans*, part I-22 through I-24 (Washington, D.C., March 2007). This document established OUSD (AT&L) criteria for the services' strategic plans.

<sup>4</sup>DOD, *Quadrennial Defense Review Report* (February 2010).

<sup>5</sup>GAO, *Depot Maintenance: Improved Strategic Planning Needed to Ensure That Army and Marine Corps Depots Can Meet Future Maintenance Requirements*, [GAO-09-865](#) (Washington, D.C.: Sept. 17, 2009).

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In September 2009, we issued a report on the Army's and Marine Corps' depot maintenance strategic plans.<sup>6</sup> Subsequently, your office asked us to review the Air Force's and Navy's depot maintenance strategic plans to determine the extent to which these plans provide a comprehensive strategy for meeting future requirements. As agreed with your office, this report addresses two questions on the Air Force's strategic plan for depot maintenance: (1) To what extent does the Air Force's strategic plan for depot maintenance address key elements of a results-oriented management framework? and (2) To what extent does the Air Force's depot maintenance strategic plan address OUSD (AT&L)'s direction that was designed to provide a framework for the services to meet future challenges? We are issuing a separate report on the Navy depot maintenance strategic plan. The Related GAO Products section at the end of the report lists additional publications on related topics.

We used the same set of methodological procedures to answer both questions, and each type of procedure was performed simultaneously for the two questions. Specifically, we reviewed the Air Force's depot maintenance strategic plan, which is composed of the Strategy and Master Plan. We evaluated the Air Force's plan using qualitative content analyses to compare information in it against criteria from the seven elements of a results-oriented management framework<sup>7</sup> and the 10 issues listed in the OUSD (AT&L) direction for depot maintenance strategic plans. To conduct these analyses, we first developed a data collection instrument that incorporated these two types of criteria. One team member then analyzed the plan using this instrument. To verify preliminary observations from this initial analysis, a second team member concurrently conducted an independent analysis of the plan. We compared the two sets of observations and discussed any differences. We reconciled the differences with the assistance of analysts from the team that was evaluating the Navy depot maintenance strategic plan. We met with Air Force officials to confirm our understanding of the plan and sought additional information where our preliminary analyses revealed that the plan partially addresses or does not address criteria. We also interviewed and obtained documentary evidence from relevant OUSD (AT&L) officials on its oversight of the services' plans. Additionally, we interviewed depot leaders and strategic planning personnel during site visits at two of the three Air

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<sup>6</sup>GAO-09-865.

<sup>7</sup>GAO, *Managing for Results: Critical Issues for Improving Federal Agencies' Strategic Plans*, GAO/GGD 97-180 (Washington, D.C.: Sept. 16, 1997).

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Force depots to obtain first-hand information on issues the depots face. We also obtained data on workload and personnel from the Air Force and determined that these data were sufficiently reliable for our report. More detailed information on our scope and methodology is provided in appendix I.

We conducted this performance audit from July 2009 through May 2010 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 of our audit objectives.

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## Background

Depot maintenance is the materiel maintenance or repair requiring overhauling, upgrading, or rebuilding of parts, assemblies, or subassemblies, and the testing and reclamation of equipment, regardless of the source of funds for the maintenance or repair or the location at which the maintenance or repair is performed.<sup>8</sup> The Air Force maintains three depots that are designed to retain, at a minimum, a ready, controlled source of technical competence and resources to meet military requirements. These depots work on a wide range of weapon systems and military equipment. Table 1 describes the location, principal work, workload, and number of personnel for each depot.

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<sup>8</sup>10 U.S.C. § 2460. Depot-level maintenance and repair also includes all aspects of software maintenance classified by DOD as of July 1, 1995, as depot-level maintenance and repair, and interim contractor support or contractor logistics support, to the extent that such support is for depot maintenance. Depot-level maintenance and repair does not include the procurement of major modifications or upgrades of weapon systems that are designed to improve program performance or the nuclear refueling of an aircraft carrier; however, a major upgrade program covered by this exception could continue to be performed by private- or public-sector activities. Depot-level maintenance also does not include the procurement of parts for safety modifications, but does include the installation of parts for that purpose.

**Table 1: Air Force Depots, Locations, Principal Work, Workload, and Number of Personnel**

| <b>Depot location</b>                          | <b>Principal work: aircraft and major commodities</b>                 | <b>Fiscal year 2010 workload estimates (in customer orders in billions of dollars)</b> | <b>Estimated number of personnel</b> |
|--|---|--|--------------------------------------|
| Hill Air Force Base, Ogden, Utah               | A-10, C-130, F-16<br>Landing gear, hydraulics, missiles, and software | \$1.38   | 7,082                                |
| Tinker Air Force Base, Oklahoma City, Oklahoma | KC-135, B-1, B-52, E-3<br>Engines, software, and instruments          | \$2.46   | 7,508                                |
| Robins Air Force Base, Warner Robins, Georgia  | F-15, C-5, C-130, C-17<br>Avionics, electronic warfare, software      | \$1.47   | 7,473                                |

Source: U.S. Air Force.

Depot maintenance activities are complex and require deliberate planning in order to efficiently and effectively meet future requirements. Our prior work has shown that organizations need effective strategic management planning in order to identify and achieve long-term goals.<sup>9</sup> We have identified key elements that should be incorporated into strategic plans to help establish a comprehensive, results-oriented management framework:<sup>10</sup>

1. *Mission statement:* A statement that concisely summarizes what the organization does, presenting the main purposes for all its major functions and operations.
2. *Long-term goals:* A specific set of policy, programmatic, and management goals for the programs and operations covered in the strategic plan. The long-term goals should correspond to the purposes set forth in the mission statement and develop with greater specificity how an organization will carry out its mission.
3. *Strategies to achieve the goals:* A description of how the goals contained in the strategic plan are to be achieved, including the

<sup>9</sup>GAO/GGD-97-180.

<sup>10</sup>OUSD (AT&L) directed each of the services to include many of these same elements in their depot maintenance plan. Specifically, OUSD (AT&L) directed the services to include a comprehensive mission statement; general goals and objectives; a description of how the goals and objectives are to be achieved; the metrics that will be applied to gauge progress toward attainment of each of the goals and objectives; an identification of those key factors external to the military service and beyond its control that could significantly affect the achievement of the general goals and objectives; and a description of the program evaluations used in establishing, monitoring, or revising the general goals and objectives.

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- operational processes; skills and technology; and the human, capital, information, and other resources required to meet these goals.
4. *Use of metrics to gauge progress:* A set of metrics that will be applied to gauge progress toward attainment of each of the plan's long-term goals.
  5. *Key external factors that could affect goals:* Key factors external to the organization and beyond its control that could significantly affect the achievement of the long-term goals contained in the strategic plan. These external factors can include economic, demographic, social, technological, or environmental factors, as well as conditions or events that would affect the organization's ability to achieve its goals.
  6. *Program evaluations:* Assessments, through objective measurement and systematic analysis, of the manner and extent to which programs associated with the strategic plan achieve their intended goals.
  7. *Stakeholder involvement in developing the plan:* Consideration of the views and suggestions—solicited during the development of the strategic plan—of those entities affected by or interested in the organization's activities.

In addition to our work on strategic planning, recent legislation has focused attention on DOD's and the military departments' maintenance strategies and plans. The National Defense Authorization Act for Fiscal Year 2009<sup>11</sup> requires the Secretary of Defense to contract for a study, which among other things, will address DOD's and the military departments' life-cycle maintenance strategies and implementation plans on a variety of topics including: outcome-based performance management objectives, workload projection, workforce, and capital investment strategies. Additionally, the act requires that the study examine "the relevant body of work performed by the Government Accountability Office." OUSD (AT&L) officials told us that they expect the final report from this study to be delivered to Congress in December 2010.

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<sup>11</sup>Pub. L. No. 110-417, § 322 (2008).

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## The Plan Does Not Fully Address All Elements of a Results-Oriented Management Framework

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### Air Force Plan Does Not Fully Address Elements of a Results-Oriented Management Framework and Lacks Clear Linkages in Planning Documents

While the Air Force plan focuses Air Force efforts on weapon system and equipment operational availability, it does not fully address the elements of a results-oriented management framework, nor does it clearly link information between the two planning documents. The Air Force plan fully addresses one of the seven elements, partially addresses four elements, and does not address the remaining two elements that our prior work has shown to be critical in a comprehensive strategic plan.<sup>12</sup> Table 2 summarizes the extent to which the Air Force’s depot maintenance strategic plan addresses the elements of a results-oriented management framework. Additionally, the plan’s documents are not clearly linked to one another and the relationship between corresponding sets of information in the documents is sometimes not transparent. As a result of these weaknesses, the Air Force’s ability to use its plan as a decision-making tool to meet future challenges may be limited.

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**Table 2: The Extent to Which the Air Force’s Depot Maintenance Strategic Plan Addresses the Elements of a Results-Oriented Management Framework**

| Elements             | Degree plan addresses element: overview and examples  |
|----------------------|---|
| 1. Mission statement | <b>Addresses:</b> The plan includes a results-oriented mission statement that covers at least a 5-year time frame. The mission statement says that the Air Force’s overarching mission for its depots is to “ensure that the Air Force weapon systems and equipment are operational and available to support the Air Force’s mission.”  |
| 2. Long-term goals   | <b>Partially addresses:</b> The plan identifies five goals related to the depots’ industrial base, workforce, facilities, partnering agreements, and transformation efforts; however, it does not specify the time frames for achieving these goals. For example, while the Air Force plan identifies maintaining a highly qualified, technically competent, and professional workforce in the future as one of its depot maintenance goals, it does not specify interim goals or the time frame for achieving this goal. |

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<sup>12</sup>GAO-09-865.

| Elements  | Degree plan addresses element: overview and examples  |
|---|---|
| 3. Strategies to achieve the goals                | <b>Partially addresses:</b> The plan generally discusses the Air Force's strategies to achieve its depot maintenance goals; however, it does not fully describe the resources required to achieve the goals. For example, the plan discusses a general strategy that involves processes for mission assignment, strategic source of repair, depot source of repair, and core capability determination in order to ensure a responsive organic industrial base. It does not, however, fully describe the resources such as capital, the number and mix of military and civilian personnel, and emerging technologies required to execute this strategy.  |
| 4. Use of metrics to gauge progress               | <b>Partially addresses:</b> The plan includes measurable life-cycle performance metrics that Air Force officials told us were intended to indirectly gauge progress toward achieving each of the plan's long-term goals; however, the plan does not describe how these metrics directly correspond to each long-term goal, desired levels for each, or how they will be used to evaluate each goal. For example, while the plan identifies metrics to assess overall depot performance such as the quality defect rate, it does not describe how the measurement of the quality defect rate would be applied to gauge progress toward any long-term goal.                                       |
| 5. Key external factors that could affect goals   | <b>Does not address:</b> The plan does not identify any key external factors beyond the Air Force's control that could affect its ability to achieve its goals. In contrast, Air Force officials have acknowledged elsewhere external factors that could affect depot maintenance. In 2007, for example, the Secretary and Chief of Staff of the Air Force discussed in a congressional hearing the harsh environments in which the Air Force is currently operating, including the heat and sand in the deserts of Iraq.   |
| 6. Program evaluations                            | <b>Does not address:</b> The plan does not describe program evaluations the Air Force may use to assess performance against the plan's goals and strategies. Previously, we reported that program evaluations are important because they help to ensure the validity and reasonableness of goals and strategies, identify factors likely to affect performance, and identify appropriate strategies to meet unmet goals.  |
| 7. Stakeholder involvement in developing the plan | <b>Partially addresses:</b> Many offices within the Air Force collaboratively developed its depot maintenance strategic plan; however, depots officials indicated that they were not involved in all aspects of the development of the plan, even though their depots must carry out actions described in the plan. Stakeholder input was solicited primarily from the Office of the Assistant Secretary of the Air Force for Installations, Environment, and Logistics; the Office of the Assistant Secretary of the Air Force for Acquisition; the Office of the Deputy Chief of Staff of the Air Force for Logistics, Installations and Mission Support; and the Air Force Materiel Command. |

Source: GAO analysis of the Air Force plan.

Note: The Air Force published its Depot Maintenance Strategic Plan and its Depot Maintenance Master Plan in response to OUSD (AT&L)'s direction to the services. Accordingly, we analyzed both documents in our evaluation of the Air Force plan.

### The Plan Fully Addresses One Element: Depot Maintenance Mission

The plan's depot maintenance mission statement fully addresses one of seven elements of a results-oriented management framework. The comprehensive mission statement summarizes the Air Force depots' overarching purpose and addresses their major functions and operations. In prior reports on strategic planning, we have noted that a mission statement is important because it provides focus by explaining why an organization exists and what it does.<sup>13</sup> The Air Force depots' overarching

<sup>13</sup>GAO, *Agencies' Strategic Plans Under GPRA: Key Questions to Facilitate Congressional Review*, GAO/GGD-10.1.16 (Washington, D.C.: May 1997).

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purpose, as identified in the plan, is to “ensure that Air Force weapon systems and equipment are operational and available to support the Air Force’s mission.” This mission statement is results-oriented and corresponds with the more general department-wide mission statement in DOD’s Depot Maintenance Strategy and Implementation Plans, which states that the mission of DOD depots is to meet the national security and materiel readiness challenges of the 21st century.

The Plan Partially Addresses Four Elements: Goals, Strategies, Metrics, and Stakeholder Involvement

The Air Force’s plan partially addresses four of the results-oriented management framework elements: long-term goals; strategies to achieve the goals; use of metrics to gauge progress; and stakeholder involvement in developing the plan. With regard to the long-term goals, the plan includes five:

- maintain a responsive organic industrial base,
- ensure a highly qualified, technically competent, and professional workforce,
- provide facilities necessary to support existing and projected depot maintenance workloads,
- maintain robust public- and private-sector capabilities by leveraging partnering, and
- transform depot processes through continuous process improvement and logistics transformation.

While the plan includes these goals, it does not specify interim goals, and it does not specify the time frames for monitoring and achieving the long-term goals. For example, the plan discusses the goal of leveraging public-private partnerships to maintain robust public- and private-sector relationships and ensure access to complementary dual depot maintenance capabilities; however, it does not identify interim goals or time frames for achieving this partnering goal.

Similarly, the plan discusses the Air Force’s strategies to achieve its five long-term goals, but does not address the resources that will be needed to achieve them. For example, the plan identifies a strategy to achieve its infrastructure goal. Specifically, the plan states that the Air Force will make capital investments in its depots in order to provide them with the state of the art, environmentally compliant, efficiently configured, and properly equipped facilities to support existing and projected depot maintenance workload. However, needed resources—such as capital, equipment, and technology—are not specified to facilitate implementation of this strategy.

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While the plan includes some metrics, it does not discuss any metrics that directly assess the degree to which the depots are achieving the plan's goals. The plan discusses general life-cycle performance metrics to assess overall depot performance. Air Force officials told us that these metrics indirectly gauge progress toward achieving each of the plan's five long-term goals. For example, the plan discusses a quality defect rate metric, which measures the variance between quality deficiency reports and the quality defect rate standard, but the plan does not describe how the depots would measure or use the metric to gauge progress toward achieving one or more of the plan's long-term goals. Air Force officials explained that a performance problem indicated by any of its metrics would lead the Air Force to monitor overall performance and then identify the relevant area (e.g., workforce) contributing to the problem. These officials told us that the Air Force would then adjust performance in the relevant area to achieve the corresponding goal. However, this indirect process is not discussed in the plan. Moreover, the plan does not discuss the desired levels for each of these metrics.

While the Air Force involved many relevant stakeholders in the development of its depot maintenance strategic plan, it did not involve depot officials directly in all aspects of the process. The Air Force developed its plan primarily by using inputs from the following stakeholders:

- the Office of the Assistant Secretary of the Air Force for Installations, Environment, and Logistics;
- the Office of the Assistant Secretary of the Air Force for Acquisition;
- the Office of the Deputy Chief of Staff of the Air Force for Logistics, Installations and Mission Support; and
- Air Force Materiel Command.

Air Force depot officials said they were not involved in all aspects of the development of the plan, even though their depots are directly affected by the plan. For example, depot officials indicated that they had limited or no involvement in the development of the Strategy.

### The Plan Does Not Address Two Elements: Key External Factors and Program Evaluations

The Air Force's plan does not address two of the results-oriented management framework elements: key external factors and program evaluations. The plan does not identify any key factors external to the Air Force and beyond its control that could significantly affect the achievement of its five long-term goals. Our prior work on developing a results-oriented management framework reported that external economic, demographic, social, technical, or environmental factors may influence

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whether an organization achieves its goals.<sup>14</sup> Moreover, we noted that a strategic plan should describe each such factor and indicate how it could affect achievement of the plan's goals. Even though the Air Force plan did not describe any such factors, Air Force officials have acknowledged elsewhere external factors that could affect depot maintenance. For example, in 2007, the Secretary and Chief of Staff of the Air Force described the harsh environments the Air Force is currently operating in—including the heat and sand in Iraq's deserts—during testimony before the House Armed Services Committee. Further, obtaining technical data rights from private-sector manufacturers is another example of external factors not identified in the plan that could affect depot maintenance.<sup>15</sup> Depot officials told us that technical data are sometimes not directly available to the depots and that without them their work is more challenging.

Similarly, the plan does not identify how the Air Force will evaluate its programs and use the results of these evaluations to adjust the plan's long-term goals and strategies to achieve desired levels of performance. The plan indicates that the Air Force must continuously validate and update its depot maintenance strategic plan to meet operational depot maintenance requirements; however, the plan does not describe the method to conduct this process.

### The Lack of Clear Linkage in the Plan's Two Documents May Limit the Plan's Usefulness

The content of the Air Force depot maintenance Strategy and Master Plan are not clearly linked to one another, which may make the collective plan difficult to use as a decision-making tool. OUSD (AT&L) instructed each service to publish its depot maintenance strategic plan in a single depot maintenance-specific document or as an integral part of one or more documents having a broader scope. Air Force officials told us that they intended the Strategy to provide the strategic vision for Air Force depot maintenance and the Master Plan to complement the Strategy by providing the details for executing the strategic vision.

We found that the linkage of information in the plan's two documents was not always clear. For example, the goals listed in the Strategy are not clearly repeated in the Master Plan, and the Master Plan includes goals that are unrelated to depot maintenance. For example, one goal the Master Plan includes is to improve the strategic acquisition of capabilities to

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<sup>14</sup>GAO/GGD-10.1.16.

<sup>15</sup>Technical data is recorded information used to define a design and to produce, support, maintain, or operate an item.

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ensure warfighters have the weapons and equipment needed to defend the United States. In addition, the Master Plan does not clearly align its content to the five long-term goals described in the Strategy. Although a table in an appendix to the Master Plan provides some information indicating how the content of the Strategy and Master Plan are aligned, the appendix does not clarify how the two documents are linked to one another or how they are used as a collective plan. An Air Force official acknowledged the weaknesses in the linkages between the plan's two documents and said that they intend to ensure effective alignment of the plan's documents in future versions of the plan.

Additionally, Air Force officials told us that they chose not to include information in the plan that was already contained in external documents. For example, they told us that other Air Force documents (such as Air Force budget documents and the servicewide strategic plan) address key external factors that could affect the achievement of the plan's goals. The Air Force plan, however, does not refer to these external documents. Without clear linkages between the two primary planning documents and other related documents, the Air Force may have limited utility of its plan as a decision-making tool to meet future challenges.

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### OUSD (AT&L) and the Air Force Did Not Use Effective Oversight Mechanisms to Systematically Evaluate the Plan

OUSD (AT&L) Did Not Employ an Effective Oversight Mechanism to Evaluate the Plan

OUSD (AT&L) did not use an effective oversight mechanism to systematically evaluate the Air Force's plan to determine whether it fully addresses all needed elements. DOD's Depot Maintenance Strategy and Implementation Plans states that the Depot Maintenance Working Integrated Process Team<sup>16</sup> would monitor the development and subsequent

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<sup>16</sup>The Depot Maintenance Working Integrated Process Team is overseen by the Materiel Readiness Senior Steering Group, which consisted of senior representatives from OUSD (AT&L), the Joint Staff, the services, and the Defense Logistics Agency. It was replaced by the Maintenance Executive Steering Committee in December 2008. The Maintenance Executive Steering Committee consists of senior maintenance and logistics representatives throughout DOD and is intended to serve as a mechanism for the coordinated review of DOD maintenance policies, systems, programs, and activities.

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execution of the services' depot maintenance strategic plans on a continuing basis. However, that team did not review any of the services' plans. OUSD (AT&L) officials representing the Assistant Deputy Under Secretary of Defense for Maintenance Policy and Programs told us that, in practice, the Integrated Process Team did not assume responsibility for oversight of the plan, but instead monitored selected issues that the services' plans describe, such as the implementation of some specific process improvement initiatives. The Maintenance Policy and Programs officials told us that they reviewed the Air Force plan through a process consisting of informal meetings and conversations with service representatives. These OUSD (AT&L) officials told us that, through their review, they found that the Air Force plan was a "good first start" but did not address all needed elements. However, Air Force officials told us that they were not informed that the plan did not fully address elements of a results-oriented management framework nor were they asked to revise the plan. Additionally, Maintenance Policy and Programs officials were unable to provide us with documentation of their review of the Air Force plan.

### The Air Force Lacked an Effective Oversight Mechanism to Systematically Evaluate the Plan

At the time the Air Force developed its plan, it lacked an effective oversight mechanism to help ensure that its plan fully addresses the elements of a results-oriented management framework and that the plan's two documents are clearly linked to one another. Air Force headquarters officials responsible for the plan did not review the Strategy or the Master Plan to ensure that these documents fully address the elements of a results-oriented management framework. Furthermore, the Air Force headquarters officials did not provide direction to the Air Force Materiel Command (AFMC)—the office responsible for the Master Plan—on strategic planning elements that should be incorporated in the Master Plan. Also, AFMC officials told us that they received no instruction to submit the Master Plan to another Air Force office or other oversight body for review. Since the development of the current plan, the Air Force developed the Depot Maintenance Strategic Planning Integrated Process Team in June 2008 to improve its future depot maintenance strategic plans. According to the team's charter, this process will be used to validate and update the depot maintenance strategic plan and help align the Strategy and Master Plan with one another and with DOD's Depot Maintenance Strategy and Implementation Plans. Moreover, while the Air Force conducts monthly reviews of depot maintenance programs and they told us that these reviews help provide oversight of the plan's implementation, these reviews do not assess the progress in achieving the plan's long-term goals.

While Air Force officials responsible for the plan acknowledged some of the plan's incomplete information, they told us that they believe the plan more fully addresses the results-oriented management framework elements than our analysis reflects. According to these officials, although the plan does not address some elements explicitly, they are implied in the plan's discussion of various initiatives and processes and experienced professionals involved in Air Force depot maintenance would be able to recognize these elements. However, because the plan does not explicitly address these elements, they may not be clear to individuals not involved in developing the plan.

## The Plan Does Not Fully Respond to OUSD (AT&L)'s Direction Designed to Meet Future Challenges

While the Air Force depot maintenance strategic plan describes many initiatives and programs important to the Air Force depots, it is not fully responsive to OUSD (AT&L)'s direction to the services that was designed to provide the services with a framework to meet future challenges. Specifically, the plan does not fully address logistics transformation, core logistics capability assurance, workforce revitalization, and capital investment—the four areas that OUSD (AT&L) directed each service, at a minimum, to include in its plan. Within these four general areas are 10 issues that OUSD (AT&L) also identified. The Air Force's plan partially addresses 8 and does not address the remaining 2. Table 3 summarizes our evaluation of the extent to which the Air Force plan addresses each of the 10 issues.

**Table 3: The Extent to Which the Air Force's Depot Maintenance Strategic Plan Addresses OUSD (AT&L)'s Direction**

| OUSD (AT&L)-directed issues   | Degree plan addresses issues: overview and examples   |
|---|---|
| <b>Logistics transformation</b>   |   |
| 1. Future roles and capabilities envisioned for the depots and how these capabilities will be quantified and measured   | <b>Partially addresses:</b> The plan notes that the future role of the depots will continue to be ensuring that Air Force weapon systems are operational and available to support the Air Force's missions, but the plan does not describe the future capabilities (e.g., maintenance, repair, overhaul) the Air Force envisions for the depots or how those capabilities would be quantified or measured.                                    |
| 2. Actions being taken to transform depots into the envisioned future capability  | <b>Partially addresses:</b> The plan discusses continuous process improvement initiatives, such as the High Velocity Maintenance program, but it does not identify changes (e.g., to the structure or organization of the depots) that would be necessary to carry out these transformations.   |
| 3. Management approaches for integrating various depot capabilities, including public- and private-sector sources, joint, inter-service, and multinational capabilities | <b>Partially addresses:</b> The plan describes management approaches for integrating public- and private-sector depot sources, but not for integrating joint, inter-service, and multinational capabilities. For public- and private-sector sources, the plan states that partnering with the private sector to ensure access to complementary or dual depot maintenance capabilities is an integral element of the Air Force depot strategy. |

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**OUSD (AT&L)-directed issues****Degree plan addresses issues: overview and examples**

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**Core logistics capability assurance**

4. Actions being taken or contemplated to (1) identify core requirements upon program initiation, (2) ensure that depot source of repair decisions are made upon program initiation, (3) encourage the formation of public-private partnerships, and (4) identify and rectify core capabilities deficiencies

**Partially addresses:** The plan addresses three of the four elements of this issue. For example, to describe actions to identify core requirements, the plan states that the Air Force uses the biennial core computation process to generate core requirements. However, the plan does not address actions to rectify core capability deficiencies.

5. Methods used for workload estimating and projected effects of weapon system retirements and bed-down (i.e., the act or process of locating aircraft at a particular base)

**Partially addresses:** The plan describes a process in which Air Force organizations, such as the Centralized Asset Management Office, provide input into the workload review process and that the workload review process determines future depot workload. However, the plan does not discuss the projected effects of weapon system retirements, despite Air Force plans to substantially reduce its fleet of older fighter aircraft, such as the F-15 and F-16.

**Workforce revitalization**

6. Reengineering strategies: Actions being taken to identify new skill requirements and reengineer existing employees' skills to satisfy new capability requirements

**Partially addresses:** The plan notes that the Air Force is partnering with local universities and technical schools to provide training to reengineer existing employees' skills, but it does not address Air Force actions to identify new and emerging skill requirements.

7. Replenishment requirements: Methods used for forecasting workforce replenishment requirements, including data on projected annual losses due to retirements and projected annual new hire requirements

**Does not address:** The plan does not discuss the methods the Air Force uses to forecast the number of depot employees it will need to replace in the near and longer term. Additionally, the plan does not include data on the Air Force's projected annual personnel losses or the associated new hire requirements.

8. Replenishment strategies: Management approach for developing and implementing replenishment strategies, including a description of the actions being used to recruit and train new employees

**Partially addresses:** The plan discusses actions the depots are now taking to train employees. For example, the plan discusses a university and vocational school partnership to train some depot employees. However, the plan does not articulate any new Air Force-wide approach to recruit or replenish its depot employees.

**Capital investment**

9. Benchmarks used for evaluating the adequacy of investment funding and the basis for selecting the benchmark

**Does not address:** The plan does not discuss any benchmarks for evaluating the adequacy of investment funding or the basis for selecting the benchmarks. While the plan states that the Air Force will continue making an annual capital investment of at least 6 percent of revenue to sustain its infrastructure, it does not discuss whether this level of investment is sufficient.

10. Methods for quantifying current capabilities, current and projected deficiencies, and the capabilities that planned investment will provide, including the method for prioritizing needed investments and quantitative data on projected funding for facilities and equipment

**Partially addresses:** The plan states that the Air Force targets its investments to the highest priority needs to support the warfighter. While the plan also discusses an infrastructure investment prioritization process, it does not describe the method for prioritizing needed investments. Similarly, the plan states that the Air Force invests in facility restorations and modernizations and discusses the Capital Purchase program for equipment, restoration, and modernization programs for facilities, transformation initiatives, and military construction. However, the plan does not present quantitative data on the projected funding (or shortfalls) for facilities and equipment.

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Source: GAO analysis of the Air Force plan.

Note: The Air Force published its Strategy and its Master Plan in response to OUSD (AT&L)'s direction to the services. Accordingly, we analyzed both documents in our evaluation of the Air Force plan.

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As discussed for the elements of a results-oriented management framework, OUSD (AT&L) and the Air Force did not identify missing or partially addressed issues because neither used effective oversight to help ensure that OUSD (AT&L)'s direction for developing the plan was carried out. Among other things, DOD's Depot Maintenance Strategy and Implementation Plans states that the DOD strategy will ensure that DOD is postured to meet the national security and materiel readiness challenges of the 21st century. However, at present, information missing from the Air Force plan may limit the service's assurance that its depots are postured and resourced to meet future maintenance requirements.

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### The Plan Partially Addresses the Three Logistics Transformation Issues

The Air Force plan partially addresses each of the three logistics transformation issues that OUSD (AT&L) directed the services to discuss in their plans. In this area, OUSD (AT&L) directed the services to discuss the future roles and capabilities of the depots, transformation actions, and approaches for integrating various depot capabilities in their plans.

The plan generally discusses the future roles of the depots, but it does not discuss projected future capabilities of the Air Force depots or how those capabilities will be measured. The plan states that the general role of the depots is to ensure Air Force weapon systems and equipment are operational and available to support the Air Force's missions. However, the plan is silent on the depots' future capabilities despite changes that DOD had planned to make to the Air Force's force structure. For example, the February 2006 Quadrennial Defense Review Report noted that DOD had planned to reduce the number of Air Force B-52 aircraft by about 40 percent to 56.<sup>17</sup>

Additionally, the plan partially addresses actions the Air Force is taking to transform its depots. For example, the plan discusses continuous process improvement initiatives such as the High Velocity Maintenance program, in which the Air Force expects to schedule depot maintenance for aircraft more frequently but for shorter periods. However, the plan does not discuss how the Air Force intends to change the structure or organization of its depots to transform them to achieve the Air Force vision of the depots' future capabilities.

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<sup>17</sup>DOD, *Quadrennial Defense Review Report* (February 2006).

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Moreover, the plan partially addresses the management approach for integrating various depot maintenance capabilities, including public- and private-sector sources, as well as joint, inter-service, and multinational capabilities. To address public- and private-sector sources, the plan states that partnering with the private-sector to ensure access to complementary or dual depot maintenance capabilities is an integral element of the Air Force strategy. However, the plan does not discuss the management approach for integrating joint, inter-service, or multinational capabilities. Because the plan does not discuss the approach for integrating these capabilities, it is unclear if the Air Force is positioned to reduce redundancies and take advantage of potential cost-saving measures.

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### The Plan Partially Addresses Both Core Logistics Capability Assurance Issues

The Air Force plan partially addresses both core logistics capability assurance issues. For one of the two issues, the plan partially addresses the OUSD (AT&L) direction to discuss actions taken or contemplated to (1) identify core requirements upon program initiation, (2) ensure that depot source of repair decisions are made upon program initiation, (3) encourage the formation of public-private partnerships, and (4) identify and rectify core capability deficiencies. The plan describes tools the Air Force uses to identify core requirements including processes, models, and guidance.<sup>18</sup> For example, the plan states that the Air Force uses the biennial core computation process and other tools to generate Air Force core requirements. To address OUSD (AT&L)'s direction to discuss depot source of repair decisions, the plan states that the Air Force uses the strategic source of repair process, the source of repair assignment process, and the depot maintenance inter-service processes.<sup>19</sup> The plan also discusses public-private partnerships and states that AFMC and the depots intend to develop a standard process for public-private partnerships to ensure compliance with DOD and Air Force directives on

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<sup>18</sup>Under 10 U.S.C. § 2464, DOD is required to identify and maintain within government-owned and operated facilities a core logistics capability, including the equipment, personnel, and technical competence required to maintain weapon systems identified as necessary for national defense emergencies and contingencies.

<sup>19</sup>Depot source of repair is the process the department uses to select the most appropriate source for noncore depot maintenance repair. In making these decisions, DOD considers whether contractors or government personnel should perform the maintenance and how a service might obtain depot maintenance support from other services.

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public-private partnerships.<sup>20</sup> To address OUSD (AT&L) direction to discuss actions to identify and rectify core deficiencies, the plan notes that if core target shortfalls exist, the depots will provide plans to mitigate the risk but, the plan does not explain how the Air Force will do so. Furthermore, the plan does not discuss concerns we have previously reported on DOD's biennial core computation process. For example, we reported in 2009 that the Air Force used a method for calculating core capability deficiencies that differed from the method used by the other services and that officials from the Office of the Secretary of Defense said that the Air Force approach was not appropriate.<sup>21</sup>

For the second of the two core logistics capability assurance issues, estimating depot workload is partially addressed in the Air Force plan. To address the depot maintenance workload estimating portion of this issue, the plan describes a process in which Air Force organizations, such as the Centralized Asset Management Office, provide input into the workload review process. The plan goes on to state that the workload review process determines future depot workload. However, the Air Force plan does not discuss the OUSD (AT&L) direction to address the projected effects of weapon system retirements or bed-down (i.e., the act or process of locating aircraft at a particular base). However, the Air Force plans to substantially reduce some portions of its fleet. In May 2009, the Air Force announced that it would accelerate the retirement of 249 older aircraft, including 112 F-15s and 134 F-16s. While these retirements will affect the workload at the Air Force depots at Warner-Robins, Georgia, and Ogden, Utah, the Master Plan issued 2 months earlier does not include any information on the planned changes. Moreover, the plan does not discuss new aircraft that will replace those being retired, the future workload estimates associated with any potential replacement aircraft, or the processes that will be used to determine which facilities will obtain any new work.

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<sup>20</sup>Public-private partnerships for depot-level maintenance are cooperative arrangements between a depot-level maintenance activity and one or more private-sector entities to perform DOD or defense-related work, to utilize DOD depot facilities and equipment, or both.

<sup>21</sup>GAO, *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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The Plan Partially Addresses Two of the Workforce Revitalization Issues but It Does Not Address the Third Issue in This Area

The Air Force plan partially addresses both reengineering and replenishment strategies but does not contain information on the OUSD (AT&L)-directed workforce replenishment requirements. Regarding the reengineering strategies issue, the plan discusses actions the Air Force is taking to reengineer its existing employees' skills to satisfy new capability requirements, but it does not discuss actions the service is taking to identify new skill requirements. To address reengineering existing employees' skills, the plan indicates that the depots are partnering with local universities and technical schools to provide training. However, it does not directly address the Air Force actions to identify new skill requirements. Instead of providing details on new skill requirements, the plan makes a general statement that the Air Force's workforce skill capabilities are continuously assessed to determine future training and skill requirements. Likewise, it is silent on specific actions the Air Force is taking to carry out this assessment.

The plan does not discuss the method the Air Force will use to forecast workforce replenishment requirements, nor the quantitative data needed to project annual hires as well as losses due to retirements and other reasons. Although the plan discusses a manpower and capability program that determines the required personnel for future work, the plan does not follow the OUSD (AT&L) direction to discuss the methods or sources of quantitative data the Air Force uses to determine turnover and the timing of the turnover.

To address the replenishment strategies issues, the plan describes actions the Air Force is taking to train employees, but it does not discuss how the Air Force is recruiting new employees, nor does it discuss a comprehensive management approach for establishing and implementing an employee replenishment strategy. The plan discusses, for example, a university and vocational school partnership program to train depot employees. However, it is silent on the Air Force's recruiting methods (e.g., for hard to fill types of positions) and any servicewide employee replenishment strategy.

The Air Force plan's limited and missing information for the three issues in the workforce revitalization area is noteworthy in the context of our previous findings on the DOD depot maintenance workforce and in the context of information in the OUSD (AT&L)'s document directing the services to provide the plans. In 2003, we reported that DOD faced

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significant management challenges in succession planning to maintain a skilled workforce at its depot maintenance facilities.<sup>22</sup> Among other challenges, we reported that relatively high numbers of civilian workers at maintenance depots were nearing retirement age. DOD's Depot Maintenance Strategy and Implementation Plans makes a similar point. It states that DOD's depot maintenance community, like the rest of the federal government, faces increasing numbers of retirements as the "baby boom" generation reaches retirement eligibility. It goes on to state that the retirement-eligible population within the depot maintenance workforce and forecasted annual retirements are expected to increase annually for the remainder of the decade. This dynamic—coupled with the highly skilled nature of some depot maintenance work and the length of time required to train new employees—creates hiring, training, and retention challenges. Without a discussion that acknowledges these and other such workforce challenges, it is unclear how well the Air Force is positioned to optimally address the challenges that its depots face.

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### The Plan Partially Addresses One Capital Investment Issue but Does Not Address the Other

The Air Force plan partially addresses the capital investment issue of quantifying current capabilities but does not address the other issue—capital investment benchmarks. Neither the benchmarks for evaluating the adequacy of investment funding nor the Air Force's basis for selecting the benchmarks are in the Air Force's plan despite OUSD (AT&L)'s direction to address this issue. Even though the plan does not address benchmarks, it notes that the Air Force intends to continue making an annual capital investment of at least 6 percent of revenue, as required by law, to sustain depot infrastructure requirements.<sup>23</sup> Moreover, an OUSD (AT&L) official mentioned that the Air Force's citing of the 6 percent capital investment should be seen as addressing the benchmark issue.

The plan partially addresses the issues pertaining to the methods for quantitatively articulating these concerns: current capabilities, current and projected deficiencies, and the capabilities that planned investment will provide. The plan notes that the Air Force targets its investments to the

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<sup>22</sup>GAO, *DOD Civilian Personnel: Improved Strategic Planning Needed to Help Ensure Viability of DOD's Civilian Industrial Workforce*, [GAO-03-472](#) (Washington, D.C.: Apr. 30, 2003).

<sup>23</sup>Section 2476 of Title 10 requires that each fiscal year the Secretary of each military department invest in the capital budgets of certain "covered depots" of that department a total amount equal to at least 6 percent of the average total combined workload funded at all of the depots of that military department for the 3 preceding fiscal years.

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highest priority needs to support the warfighter. While the plan also discusses an infrastructure investment prioritization process, it does not describe the method for prioritizing needed investments. Similarly, the plan notes that the Air Force invests in facility restorations and modernizations and discusses the Capital Purchase Program for equipment, restoration, and modernization programs for facilities, transformation initiatives, and military construction. However, the plan does not present quantitative data on the projected funding (or shortfalls) for facilities and equipment.

Capital investment in DOD depots has been an issue of concern in our prior work. For example, in 2001, we reported that capital investments in depot plant equipment had declined sharply in the mid-1990s as a result of defense downsizing and depot closures and consolidations.<sup>24</sup> As a result of DOD's lack of capital investment, its depots did not keep up with the latest technologies. In subsequent years, funding levels increased as the services recognized the need to modernize their depots.

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## Conclusions

OUSD (AT&L) officials told us that the primary intent of the OUSD (AT&L)'s direction was to provide a framework for the services to meet challenges in the future and that the issues identified in the four areas specified in the direction were designed to address those challenges. Further, DOD's Depot Maintenance Strategy and Implementation Plans states that each service will conduct depot maintenance strategic planning that focuses on achieving the DOD depot maintenance strategy and that the DOD strategy will ensure that DOD is postured to meet the national security and materiel readiness challenges of the 21st century. However, the Air Force's plan does not provide a comprehensive, results-oriented management framework to efficiently and effectively inform the Air Force's future decisions, nor does it fully respond to OUSD (AT&L)'s direction that was designed to provide a framework for the services to overcome four general areas of future challenges. Furthermore, the limited linkage of information in the Air Force's two planning documents may reduce the utility of the plan as a decision-making tool to meet future challenges. A primary reason for not fully addressing these framework elements and linkages in the plan was that OUSD (AT&L) and the Air Force did not have effective oversight mechanisms in place to promptly

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<sup>24</sup>GAO, *Defense Maintenance: Sustaining Readiness Support Capabilities Requires a Comprehensive Plan*, [GAO-01-533T](#) (Washington, D.C.: Mar. 23, 2001).

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identify the incomplete information, communicate such findings to the plan developers, and monitor the revision of the plan to ensure that the limitations had been addressed. These concerns about the content, linkage, and oversight resulted in a plan that missed an opportunity to identify a more complete Air Force vision for the effective and efficient operation of its depots in the future. For example, had the Air Force identified and implemented systematic program evaluation and a thorough set of metrics to directly assess goal achievement, it would have additional tools for reacting in a timely manner to findings from the ongoing congressionally mandated study on depot capabilities. Most importantly, a comprehensive plan could have resulted in the Air Force having more assurance that its depots are viably positioned and have the maintenance workforce, equipment, facilities, and funds they need to meet current and future requirements.

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## Recommendations for Executive Action

To provide greater assurance that Air Force depots will be postured and resourced to meet future maintenance requirements, we recommend that the Secretary of Defense direct the Secretary of the Air Force to take the following three actions to revise the Air Force's depot maintenance strategic plan:

- Fully and explicitly address all elements needed for a comprehensive results-oriented management framework, including those elements that we have identified as partially addressed or not addressed in the current plan.
- Demonstrate clear linkages among the depot maintenance strategic plan's component documents, should the Air Force decide to publish its revised plan in multiple documents.
- Fully and explicitly address OUSD (AT&L)'s direction that provides a framework for the services to meet future depot maintenance challenges.

To strengthen the oversight mechanism for depot maintenance strategic planning, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics and the Secretary of the Air Force to develop and implement procedures to review revisions of the depot maintenance strategic plan to ensure they fully address all key elements of a results-oriented management framework, explicitly address any OUSD (AT&L) direction for the plans, and periodically assess progress and corrective actions to the extent needed in meeting the plans' goals.

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## Agency Comments and Our Evaluation

In oral comments on a draft of this report, DOD concurred with our four recommendations to provide greater assurance that Air Force depots will be postured and resourced to meet future maintenance requirements.

The department concurred with our recommendation to direct the Secretary of the Air Force to revise the Air Force's depot maintenance strategic plan to fully and explicitly address all elements needed for a comprehensive results-oriented management framework. DOD stated that it will direct the Air Force and the other services to more clearly address all elements needed for a results-oriented strategy in the next OUSD (AT&L) request to services to update their depot maintenance strategic plans.

DOD also concurred with our recommendation to direct the Secretary of the Air Force to revise the Air Force's depot maintenance strategic plan to demonstrate clear linkages among the plan's component documents, should the Air Force decide to publish its revised plan in multiple documents. In its response, DOD stated that it will direct the Air Force and the other services to more clearly demonstrate the linkages of the Air Force plan to the DOD depot maintenance strategic plan in the next OUSD (AT&L) request to the services to update their depot maintenance strategic plans. While the department concurred with our recommendation, it did not discuss directing the Air Force to more clearly demonstrate linkages among the Air Force plan's component documents, which was the focus of our recommendation. Therefore, DOD may need to take further action to explicitly direct the Secretary of the Air Force to more clearly demonstrate linkages among the Air Force plan's component documents, should the Air Force decide to publish its revised plan in multiple documents.

The department also concurred with our recommendation to direct the Secretary of the Air Force to revise the Air Force's depot maintenance strategic plan to fully and explicitly address OUSD's (AT&L) direction that provides a framework for the services to meet future depot maintenance challenges. DOD stated that it will direct the Air Force and the other services to explicitly address the OUSD (AT&L) direction for depot maintenance strategic planning in the next OUSD (AT&L) request to the services to update to their depot maintenance strategic plans.

Additionally, DOD concurred with our recommendation to direct the Under Secretary of Defense for Acquisition, Technology and Logistics and the Secretary of the Air Force to develop and implement procedures to review revisions of the depot maintenance strategic plan to ensure they fully address all key elements of a results-oriented management

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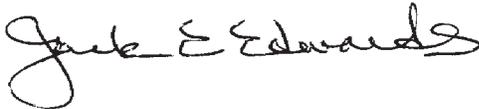
framework, explicitly address any OUSD (AT&L) direction for the plans, and periodically assess progress and corrective actions to the extent needed in meeting the plan's goals. In its response, DOD stated that it will direct the Air Force and the other services to explicitly address the procedures noted in our recommendation. DOD also said that OUSD (AT&L) would further develop a process to periodically assess progress and corrective actions to ensure the Air Force and the other services are meeting OUSD (AT&L) and their own plan's goals.

DOD also provided technical comments that we have incorporated into this report where applicable.

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We are sending copies of this report to the Secretary of Defense and the Secretary of the Air Force. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff have any questions concerning this report, please call me at (202) 512-8246 or [edwardsj@gao.gov](mailto:edwardsj@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix II.



Jack E. Edwards  
Director  
Defense Capabilities and Management

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# Appendix I: Scope and Methodology

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In this report, we addressed two questions: (1) To what extent does the Air Force's depot maintenance strategic plan address key elements of a results-oriented management framework? and (2) To what extent does the Air Force's depot maintenance strategic plan address direction from the Office of the Under Secretary of Defense for Acquisitions, Technology, and Logistics (OUSD (AT&L)) that was designed to provide a framework for the services to meet future challenges? We limited the scope of our analysis to the current Air Force depot maintenance strategic plan, which includes both the April 2008 Air Force Depot Maintenance Strategic Plan and the March 2009 Air Force Depot Maintenance Master Plan.

We used the same set of methodological procedures to answer both questions and each type of procedure was performed simultaneously for the two questions. For our analysis, we first reviewed relevant laws; Department of Defense (DOD) and Air Force regulations governing depot maintenance; and depot maintenance-related reports issued by agencies and organizations including GAO, DOD, the Logistics Management Institute, and RAND. We then used qualitative content analyses to compare the Air Force plan against criteria from the seven elements of a results-oriented management framework and the 10 issues listed in the OUSD (AT&L) direction for depot maintenance strategic plans. To conduct these analyses, we first developed a data collection instrument that incorporated these two types of criteria. One team member then analyzed the plan using this instrument. To verify preliminary observations from this initial analysis, a second team member concurrently conducted an independent analysis of the plan. We compared observations of the two analysts and discussed any differences. We reconciled the differences with the assistance of analysts from the team that was evaluating the Navy depot maintenance strategic plan. We subsequently met with Air Force officials to confirm our understanding of the plan and sought additional information where our preliminary analyses revealed that the plan partially addresses or does not address the criteria. We also interviewed and obtained documentary evidence from relevant OUSD (AT&L) officials regarding its oversight of the services' plans. We additionally interviewed depot leaders and strategic planning personnel during site visits at two of the three Air Force depots to obtain first-hand information on issues the depots face. We also obtained data on workload and personnel from the Air Force and determined that these data were sufficiently reliable for our report.

The organizations we interviewed are listed in table 4.

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**Table 4: Organizations Contacted to Obtain Information Related to the Air Force's Depot Maintenance Strategic Plan**

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**DOD**

- Office of the Assistant Deputy Under Secretary of Defense for Maintenance Policy and Programs, Arlington, Virginia
- Office of the Assistant Deputy Under Secretary of Defense for Materiel Readiness, Arlington, Virginia

**Air Force**

- Office of the Assistant Secretary of the Air Force for Installations, Environment, and Logistics, Arlington, Virginia
- Office of the Deputy Chief of Staff of the Air Force for Logistics, Installations and Mission Support, Arlington, Virginia
- Air Force Materiel Command, Columbus, Ohio
- Ogden Air Logistics Center, Ogden, Utah
- Oklahoma City Air Logistics Center, Oklahoma City, Oklahoma

**Other**

- Joint Depot Maintenance Activities Group, Columbus, Ohio
  - The Logistics Management Institute, Fairfax, Virginia
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Source: GAO.

We conducted this performance audit from July 2009 through May 2010 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 II: GAO Contact and Staff Acknowledgments

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## GAO Contact

Jack E. Edwards, (202) 512-8246 or [edwardsj@gao.gov](mailto:edwardsj@gao.gov)

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## Staff Acknowledgments

Key contributors to this report were Sandra B. Burrell, Assistant Director; James P. Klein; Ron La Due Lake; Joanne Landesman; Brian Mazanec; Michael Willems; and Elizabeth Wood.

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# Related GAO Products

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*Depot Maintenance: Improved Strategic Planning Needed to Ensure That Army and Marine Corps Depots Can Meet Future Maintenance Requirements.* [GAO-09-865](#). Washington, D.C.: September 17, 2009.

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

*Depot Maintenance: DOD's Report to Congress on Its Public-Private Partnerships at Its Centers of Industrial and Technical Excellence (CITEs) Is Not Complete and Additional Information Would Be Useful.* [GAO-08-902R](#). Washington, D.C.: July 1, 2008.

*Depot Maintenance: Issues and Options for Reporting on Military Depots.* [GAO-08-761R](#). Washington, D.C.: May 15, 2008.

*Depot Maintenance: Actions Needed to Provide More Consistent Funding Allocation Data to Congress.* [GAO-07-126](#). Washington, D.C.: November 30, 2006.

*DOD Civilian Personnel: Improved Strategic Planning Needed to Help Ensure Viability of DOD's Civilian Industrial Workforce.* [GAO-03-472](#). Washington, D.C.: April 30, 2003.

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