

GAO

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

June 2010

DEPOT MAINTENANCE

Improved Strategic
Planning Needed to
Ensure That Navy
Depots Can Meet
Future Maintenance
Requirements



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Highlights of [GAO-10-585](#), a report to the Subcommittee on Readiness, Committee on Armed Services, House of Representatives

Why GAO Did This Study

The Navy's depots provide critical maintenance support to operations around the world. The Department of Defense's (DOD) increased reliance on the private sector for depot maintenance support coupled with downsizing led to a deterioration of depots' capabilities and cost increases. In 2007, the Office of the Secretary of Defense (OSD) directed each service to submit a depot maintenance strategic plan and provided direction for the content of those plans. The 2007 *U.S. Navy Depot Maintenance Strategic Plan* contained a separate plan for each of five functional areas and an executive summary. GAO used qualitative content analyses to determine the extent to which two of the plans address (1) elements of a results-oriented management framework and (2) OSD's direction for the plan's content. GAO examined the plans for Navy aviation (NAVAIR) and ships (NAVSEA), which account for 94 percent of Navy depot workload.

What GAO Recommends

GAO is recommending that the Navy revise its plans to fully address all elements of the framework and all Office of the Under Secretary of Defense for Acquisition, Technology and Logistics (OUSD [AT&L])–directed issues, demonstrate linkages in future strategic plans, and implement oversight procedures for reviewing future plan revisions and plan implementation. DOD concurred with our recommendations.

View [GAO-10-585](#) or [key components](#). For more information, contact Jack Edwards at (202) 512-8246 or edwardsj@gao.gov.

DEPOT MAINTENANCE

Improved Strategic Planning Needed to Ensure That Navy Depots Can Meet Future Maintenance Requirements

What GAO Found

While the Navy's plans for aviation and shipyard depot maintenance focus efforts on weapon system and equipment availability, they do not fully address the elements of a results-oriented management framework. GAO's prior work has shown that seven elements of a results-oriented management framework are critical for comprehensive strategic planning. The NAVAIR and NAVSEA plans both fully address one of the elements by including mission statements that summarize their depots' major functions and operations, but the plans partially address or do not address the other six elements. For example, even though the plans describe goals for the depots' mission-related functions, they do not specify interim milestones or time frames for achieving the goals. Additionally, the plans include some measurable warfighter support metrics to gauge progress toward achieving the NAVAIR and NAVSEA plans' long-term goals; however, the plans do 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. Further, the Navy does not have an integrated Navy-wide depot maintenance strategic plan, but instead uses an overarching executive summary that does not have clear linkages to the separate plans and has the weaknesses resulting from the separate plans' missing or limited information on some elements. The NAVAIR and NAVSEA plans do not fully address these concerns because of weaknesses in oversight. Although OSD established an oversight body, which included senior representatives from OSD and the services, to review the services' plans, this body did not review the plans. Also, the Navy did not establish an oversight mechanism to review its plans. The plans' weaknesses may limit the Navy's ability to use its plan as a tool to meet future challenges effectively and efficiently.

In addition, the NAVAIR and NAVSEA plans are not fully responsive to OSD's direction to the services that was designed to provide the services with a framework to meet future challenges. OSD directed the services to address 10 specific issues in four general areas: logistics transformation, core logistics capability assurance, workforce revitalization, and capital investment. Both plans partially address 8 of these issues and do not address the remaining 2. For example, both plans discuss management approaches for integrating public- and private-sector depot sources, but the plans are silent with regard to integrating joint, interservice, or multinational depot capabilities. The plans do not discuss the methods for estimating the amount of workload or the projected effects on depot workload caused by weapon system retirements and locating weapon systems at specific installations. The plans do not fully respond to OSD's direction for the plans' content in part because of weaknesses in oversight in both OSD and the Navy. As a result, these weaknesses could additionally limit the Navy's efforts to posture and resource its depots to meet future maintenance challenges.

Contents

Letter		1
	Background	4
	NAVAIR and NAVSEA Plans Do Not Fully Address All Elements of a Results-Oriented Management Framework	8
	NAVAIR and NAVSEA Plans Do Not Fully Respond to OUSD (AT&L)'s Direction Designed to Meet Future Challenges	17
	Conclusions	25
	Recommendations for Executive Action	26
	Agency Comments and Our Evaluation	27
Appendix I	Scope and Methodology	30
Appendix II	Comments from the Department of Defense	32
Appendix III	GAO Contacts and Staff Acknowledgments	35
Related GAO Products		36
Tables		
	Table 1: NAVAIR and NAVSEA Depots, Locations, Principal Work, Workload, and Number of Civilian Personnel	6
	Table 2: The Extent to Which the NAVAIR and NAVSEA Depot Maintenance Strategic Plans Address the Elements of a Results-Oriented Management Framework	9
	Table 3: The Extent to Which the NAVAIR and NAVSEA Depot Maintenance Strategic Plans Address OUSD (AT&L)'s Direction	17
	Table 4: Organizations Contacted to Obtain Information about the Navy's Depot Maintenance Strategic Plan	31

Abbreviations

BRAC	Base Realignment and Closure Act
DOD	Department of Defense
NAVAIR	Naval Air systems Command
NAVSEA	Naval Sea Systems Command
OSD	Office of the Secretary of Defense
OUSD (AT&L)	Office of the Under Secretary of Defense for Acquisition, Technology and Logistics

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United States Government Accountability Office
Washington, DC 20548

June 11, 2010

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

The Navy's 11 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 logistics¹ 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.² 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 management challenges of the 21st century. In March 2007, the Office of the Deputy Under Secretary of Defense for Logistics and Materiel

¹Performance-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 support.

²H.R. Rep. No. 108-106 (2003), p. 304; H.R. Rep. No. 109-452 (2006), pp. 296-297.

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.³ In response, the Navy published its December 2007 *U.S. Navy Depot Maintenance Strategic Plan*, which consists of an overarching executive summary and the individual depot maintenance plans developed by the following Navy commands and centers: (1) the Naval Sea Systems Command (NAVSEA), (2) the Naval Air Systems Command (NAVAIR), (3) the Naval Undersea Warfare Center, (4) the Naval Surface Warfare Center, and (5) the Space and Naval Warfare Systems Command. According to Navy officials, together these five documents and updates issued in 2009 collectively respond to OUSD (AT&L)'s direction. DOD's 2007 *Depot Maintenance Strategy and Implementation Plans* also notes 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*.⁴

Our prior work has shown that organizations conducting strategic planning—as the Navy is doing for its maintenance depots—need to develop a comprehensive, results-oriented management framework to remain operationally effective, efficient, and capable of meeting future requirements.⁵ 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 discussion 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 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

³OUSD (AT&L) outlined the military services' depot maintenance strategic planning responsibilities in its report to Congress. See DOD, *Depot Maintenance Strategy and Implementation Plans*, (Washington, D.C.: March 2007), pp. I-21 through I-24. This document established OUSD (AT&L) criteria for the services' strategic plans.

⁴DOD, *Quadrennial Defense Review Report* (Washington, D.C.: February 2010).

⁵GAO, *Managing for Results: Critical Issues for Improving Federal Agencies' Strategic Plans*, [GAO/GGD-97-180](#) (Washington, D.C.: Sept. 16, 1997).

areas was designed to provide the services' plans with a framework to meet future challenges.

In September 2009, we issued a report on the Army's and Marine Corps' depot maintenance strategic plans.⁶ Subsequently, your office asked us to review the Air Force's and Navy's depot maintenance strategic plans to determine the extent to which the latter plans provided a comprehensive strategy for meeting future requirements. In May 2010, we issued a report on the Air Force depot maintenance strategic plan.⁷ As agreed with your office, this report addresses two questions: (1) To what extent does the Navy's depot maintenance strategic plan address key elements of a results-oriented management framework? and (2) To what extent does the Navy'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? 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 December 2007 *U.S. Navy Depot Maintenance Strategic Plan*. Because the Navy does not have a single Navy-wide plan, but rather a family of strategic planning documents, we focused our review on plans developed by the two commands whose maintenance depots collectively are responsible for 94 percent of the Navy's depot maintenance workload. The two plans are NAVAIR's *Naval Aviation Industrial Strategy* and NAVSEA's *Naval Shipyard Business Plan*. We reviewed the 2007 NAVAIR and NAVSEA plans and their 2009 updates. We evaluated the NAVAIR and NAVSEA plans using qualitative content analyses to compare information from them against criteria both from the seven elements of a results-oriented management framework⁸ 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

⁶GAO, *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).

⁷GAO, *Depot Maintenance: Improved Strategic Planning Needed to Ensure That Air Force Depots Can Meet Future Maintenance Requirements*, [GAO-10-526](#) (Washington, D.C.: May 14, 2010).

⁸[GAO/GGD-97-180](#).

of criteria. One team member then analyzed the plans using this instrument. To verify the preliminary observations from this initial analysis, a second team member concurrently conducted an independent analysis of the plans. 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 Air Force depot maintenance strategic plan. We met with Navy officials to confirm our understanding of the plans and sought additional information where our preliminary analyses revealed that one or both plans partially address or do not address the criteria. We also interviewed and obtained documentary evidence from relevant OUSD (AT&L) officials regarding its oversight of the services' plans. Additionally, we interviewed depot leaders and strategic planning personnel at three of the seven NAVAIR and NAVSEA depots to obtain first-hand information on issues the depots face. We also analyzed depot-level and servicewide depot maintenance data such as workload, personnel, and depot capacity utilization 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 August 2009 through June 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.

Background

Depot maintenance is the materiel maintenance or repair requiring the overhaul, 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.⁹ The Navy maintains 11 maintenance depots that are designed to retain, at a minimum, a ready, controlled source of technical competence and resources to meet military requirements. NAVAIR's three Fleet Readiness Centers and NAVSEA's four Naval Shipyards work on a wide range of weapon systems and military equipment. These Fleet Readiness Centers and Naval Shipyards are responsible for over 94 percent of the Navy's depot maintenance workload. Table 1 describes the location, principal work, workload, and personnel for NAVAIR and NAVSEA depots.¹⁰

⁹10 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.

¹⁰The Navy's other four maintenance depots are two naval warfare centers: Naval Surface Warfare Center and Naval Undersea Warfare Center; and two space and naval warfare systems centers: Space and Naval Warfare Systems Center, Charleston and San Diego.

Table 1: NAVAIR and NAVSEA Depots, Locations, Principal Work, Workload, and Number of Civilian Personnel

Navy depot and location	Principal work	Fiscal year 2009	
		Workload (in millions of direct labor hours)	Civilian personnel
NAVAIR			
Fleet Readiness Center East Cherry Point, North Carolina	Marine Corps and multiservice aircraft, helicopter and turbofan vectored engines, auxiliary power units, pressurization units, and related components	3.4	3,385
Fleet Readiness Center Southeast Jacksonville, Florida	Airframes; and propulsion, avionics, surveillance, and countermeasure systems	3.4	3,178
Fleet Readiness Center Southwest North Island, California	Navy and Marine Corps fixed- and rotary-wing airframes, propulsion systems, avionics, command and control equipment, and early warning and airborne battle-management systems	3.2	2,664
NAVSEA			
Norfolk Naval Shipyard Norfolk Virginia	Nuclear refueling and defueling, nuclear submarines, aircraft carriers, and surface combatants	9.8	8,117
Pearl Harbor Naval Shipyard Pearl Harbor, Hawaii	Nuclear refueling, and defueling, nuclear submarines, surface combatants, and watercraft	5.2	4,279
Portsmouth Naval Shipyard Kittery, Maine	Nuclear refueling nuclear submarines, and deep-submergence vehicle maintenance	5.4	4189
Puget Sound Naval Shipyard Bremerton, Washington	Nuclear refueling and defueling, nuclear submarines, aircraft carriers, and ship recycling	12.8	10,004

Source: GAO analysis of Navy data.

Note: Data are from the 2007 *U.S. Navy Depot Maintenance Strategic Plan* and Navy budget documents.

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, like Navy depots, need sound strategic management planning in order to identify and achieve long-range goals and objectives. We have identified critical elements that should be incorporated into strategic plans to establish a comprehensive, results-oriented management framework.¹¹ A results-oriented management framework provides an approach whereby program effectiveness is measured in terms of outcomes or impact, rather than outputs, such as activities and processes. Approaches to such planning vary according to

¹¹[GAO/GGD-97-180](#).

agency-specific needs and missions, but our work suggests that, irrespective of the context in which planning is done, such a strategic plan should contain the following elements:¹²

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 and performance plan are to be achieved, including the 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. *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 strategic goals.
6. *Evaluations of the plan to monitor goals and objectives:* Assessments, through objective measurement and systematic analysis, of the manner

¹²OUSD (AT&L) directed each of the services to include many of these same elements in its 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 services and beyond their 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 general goals and objectives.

and extent to which programs associated with the strategic plan achieve their intended goals.

7. *Stakeholder involvement:* Consideration of the views and suggestions—solicited during the development of the strategic plan—of those entities potentially 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 2009¹³ requires the Secretary of Defense to contract for a study, that, 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.

NAVAIR and NAVSEA Plans Do Not Fully Address All Elements of a Results-Oriented Management Framework

¹³Pub. L. No. 110-417, § 322 (2008).

NAVAIR and NAVSEA Plans Do Not Fully Address Elements of a Results-Oriented Management Framework, and Linkages with Navy-wide Summary Are Unclear

While the NAVAIR and NAVSEA plans focus their efforts on weapon system and equipment availability, they do not fully address the elements of a results-oriented management framework, and the two plans and the Navy-wide executive summary are not clearly integrated. The NAVAIR plan fully addresses one of the seven elements, partially addresses five elements, and does not address one element that our prior work has shown to be critical in developing a comprehensive strategic plan. The NAVSEA plan fully addresses one of the seven elements, partially addresses four elements, and does not address the remaining two elements. Table 2 summarizes the extent to which both depot maintenance strategic plans address the elements of a results-oriented management framework. Additionally, the Navy does not have an integrated servicewide plan with clear links across the command-level plans and to the Navy-wide overarching executive summary. As a result of these weaknesses, the Navy may be limited in its ability to use the information in the plans as a servicewide decision-making tool to meet future challenges.

Table 2: The Extent to Which the NAVAIR and NAVSEA Depot Maintenance Strategic Plans Address the Elements of a Results-Oriented Management Framework

Elements	Degree plan addresses element: Overview and examples	
	NAVAIR plan	NAVSEA plan
1. Mission statement	Addresses: The plan includes a results-oriented mission statement that defines the NAVAIR mission and aligns with the DOD and Navy depot maintenance mission statements. Specifically, the depots' overarching purpose is to produce relevant quality aircraft, engines, components, and support equipment to meet fleet demand and ensure fleet safety with improved efficiency and reduced cost.	Addresses: The plan includes a results-oriented mission statement that defines the NAVSEA mission and aligns with the DOD and Navy depot maintenance mission statements. Specifically, the depots' overarching purpose is to provide the capability on ships and weapons systems required by Navy component commanders and combatant commanders.
2. Long-term goals	Partially addresses: The plan identifies five goals: core sustaining capability, optimization of the industrial base, logistics transformation, workforce revitalization, and capital investment; however, it does not specify the time frames for achieving these goals. For example, while the NAVAIR plan identifies developing the industrial capabilities to support future Naval Aviation requirements as one of its industrial base optimization goals, it does not specify interim goals and milestones or the time frame for achieving this goal.	Partially addresses: The plan identifies three goals: accomplish the current readiness workload; sustain the capability and capacity for future workload; and improve processes and systems to provide quality, value, and operational availability to customers. However, it does not specify the time frames for achieving these goals. For example, while the NAVSEA plan identifies sustaining capability and capacity for future workload as one of its sustaining future workload goals, it does not specify the time frame for achieving this goal.

Degree plan addresses element: Overview and examples

Elements	NAVAIR plan	NAVSEA plan
3. Strategies to achieve the goals	Partially addresses: The plan generally discusses NAVAIR's strategies to achieve its depot maintenance goals; however, it does not describe the resources required to achieve the goals. For example, the plan discusses a general strategy that involves processes for the integration of depot and intermediate levels of repair, industrial and maintenance program coordinators, and the infusion of new technologies to transform NAVAIR maintenance processes. It does not, however, describe the capital, personnel, or technologies needed to execute this strategy.	Partially addresses: The plan generally discusses NAVSEA's strategies to achieve its depot maintenance goals; however it does not describe the resources required to achieve the goals. For example, the plan discusses NAVSEA's Information Technology Modernization strategy to provide the Naval Shipyards with information systems they need to sustain future workloads. However, the plan does not describe the capital, personnel, or technologies needed to execute the strategy.
4. Use of metrics to gauge progress	Partially addresses: The plan includes some measurable warfighter-support metrics that NAVAIR 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, the NAVAIR plan identifies flying-hour metrics, but the plan does not directly link these metrics to any of the five long-term goals.	Partially addresses: The plan includes some measurable workload metrics that NAVSEA 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, the desired levels for each, or how they will be used to evaluate each goal. For example, while the plan identifies a metric for shipyard workload levels, it does not describe how workload levels are calculated or how the metric gauges progress toward any of the three long-term goals.
5. Key external factors that could affect goals	Partially addresses: The plan broadly identifies two external factors that could affect its successful implementation. Specifically, the plan identifies changes in force structure and the ongoing conflicts in Afghanistan and Iraq. However, the plan does not discuss a method for monitoring the environment for changes in these or other factors.	Does not address: The plan does not identify external factors that could affect NAVSEA's ability to achieve program goals. External factors may include economic, demographic, social, technological, or environmental factors, as well as conditions or events that would affect the organization's ability to achieve its strategic goals. Additionally, the plan does not discuss a method for monitoring the environment for changes in these or other factors.
6. Evaluations of the plan to monitor goals and objectives	Does not address: The plan does not describe program evaluations to assess depot performance against the plan's goals and strategies even though the plan indicates that NAVAIR must continuously validate and update the plan to meet operational depot maintenance requirements. For example, the plan does not describe the scope, methodology, or schedule for evaluations.	Does not address: The plan does not describe program evaluations to assess performance against the plan's goals and strategies, even though the plan indicates that NAVSEA must continuously validate and update the plan to meet operational depot maintenance requirements. For example, the plan does not describe the scope, methodology, or schedule for evaluations.

Degree plan addresses element: Overview and examples

Elements	NAVAIR plan	NAVSEA plan
7. Stakeholder involvement in developing the plan	<p>Partially addresses: We were told that many offices within NAVAIR collaboratively developed its depot maintenance strategic plan; however, depot officials indicated that they were not involved in some aspects of the development of the plan, even though their depots must carry out actions described in the plan. NAVAIR solicited input primarily from the Office of the Assistant Secretary of the Navy for Research, Development and Acquisition; the Office of the Assistant Secretary of the Navy for Installations and Environment; the Office of the Chief of Naval Operations, Director of Fleet Readiness and Logistics; and NAVAIR directorates and program executive offices.</p>	<p>Partially addresses: Many offices within NAVSEA collaboratively developed its depot maintenance strategic plan; however, depot officials indicated that they were not involved in some aspects of the development of the plan, even though their depots must carry out actions described in the plan. NAVSEA officials told us they solicited input primarily from the Office of the Assistant Secretary of the Navy for Research, Development and Acquisition; the Office of the Assistant Secretary of the Navy for Installations and Environment; the Office of the Chief of Naval Operations, Director of Fleet Readiness and Logistics; the Atlantic and Pacific fleets; and NAVAIR directorates and program executive offices.</p>

Source: GAO analysis of NAVSEA and NAVAIR data.

Note: Among other things, the 2007 *U.S. Navy Depot Maintenance Strategic Plan* contained NAVAIR's *Naval Aviation Industrial Strategy* and NAVSEA's *Naval Shipyard Business Plan*. NAVAIR and NAVSEA also published updates in 2009. We reviewed information from the 2007 and 2009 documents in our evaluation of the NAVAIR and NAVSEA plans.

NAVAIR and NAVSEA Plans Fully Address the Depot Maintenance Mission Statement Element

The NAVAIR and NAVSEA plans' depot maintenance mission statements fully address one of the seven elements of a results-oriented management framework. NAVAIR's and NAVSEA's mission statements summarize each command's overarching purpose and address its 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.¹⁴ The overarching purpose of the NAVAIR depots is to ensure that weapons systems and equipment are operational and available to meet fleet demand at reduced costs. The overarching purpose of the NAVSEA Naval Shipyards is to provide the capability on ships and weapons systems required by Navy component commanders and combatant commanders. Both mission statements are outcome-oriented and correspond with the more general departmentwide 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.

¹⁴GAO, *The Results Act: Observations on DOD's Draft Strategic Plan*, [GAO/NSIAD-97-219R](#) (Washington, D.C.: Aug. 5, 1997).

NAVAIR Plan Partially
Addresses Five Elements, and
NAVSEA Plan Partially
Addresses Four Elements

The NAVAIR and NAVSEA plans each partially address 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. The NAVAIR plan also partially addresses a fifth area—external factors that could affect goals—that the NAVSEA plan does not address.

With regard to the long-term goals, while both plans identify some strategic goals that generally relate to mission statements, they do not specify time frames for achieving any of these goals. For example, the NAVAIR plan listed five goals, including the goal to optimize the industrial base; however, it does not describe what aspects of the industrial base require adjustments or specify the milestones or time frames for achieving this goal. Similarly, the NAVSEA plan identifies three strategic goals. For example, the plan identifies the goal of enhancing ship operational availability by minimizing maintenance time, but the plan does not discuss the time frames, numbers and types of ships that will undergo maintenance, or the level of availability anticipated.

Both plans partially address strategies to achieve the goals. For example, to realize the goal of logistics transformation, NAVAIR has adopted a strategy that includes initiatives for the integration of depot and intermediate levels of repair, industrial and maintenance program coordinators, and the infusion of technologies into maintenance processes. Similarly, the NAVSEA plan identifies multiple key strategic investment areas to achieve its goals, such as the Information Technology Modernization Plan to provide the Naval Shipyards with the information systems they need to meet their mission. However, neither plan describes the capital, personnel, or technology resources needed to facilitate implementation of the strategies.

Regarding metrics to gauge progress, the NAVAIR and NAVSEA plans partially address this element. Officials for each command indicated that the metrics listed in their plan are intended to “indirectly” gauge progress toward achieving the plan’s long-term goals. The NAVAIR plan includes measurable warfighter support metrics such as “cycle time” (the amount of time from when the need of repair is identified to when the component such as an engine is reinstalled on the aircraft or restocked on a shelf) and “time on wing” (the amount of time a component is operational on the aircraft). The NAVSEA plan also generally describes some metrics such as shipyard workload levels. However, the plans do not describe how these metrics correspond to each long-term goal, the desired level for each metric, or how the metrics will be used to evaluate each goal.

For the stakeholder-involvement element, NAVAIR and NAVSEA involved many relevant stakeholders in the development of their respective plans, but neither command involved depot officials directly in all aspects of its strategic planning process. NAVAIR and NAVSEA developed their plans primarily by using inputs from directorates and program executive offices within the commands and the following Navy-wide stakeholders:

- Office of the Assistant Secretary of the Navy for Research, Development and Acquisition;
- Office of the Assistant Secretary of the Navy for Installations and Environment; and
- Office of the Chief of Naval Operations, Director of Fleet Readiness and Logistics.

In our interviews with NAVAIR and NAVSEA depot officials, they said they were not directly involved in the plans' development, even though their depots would be directly affected by the plans. For example, NAVAIR and NAVSEA depot officials indicated that they had limited or no involvement in the development of their plans.

Regarding external factors that could affect the goals, the NAVAIR plan partially addresses this element, but the NAVSEA plan did not address the element. The plan identifies ongoing conflicts in Afghanistan and Iraq and changes in NAVAIR's force structure as some of the key external factors, but it does not describe how these factors can affect the plan. Also, our report that identified the elements of a results-oriented management framework for strategic planning noted a wide range of key external factors to consider, such as economic, demographic, social, and environmental factors.¹⁵ In contrast, the NAVSEA plan does not identify any key external factors that could affect execution of that plan.

NAVSEA Plan Does Not Address Two Elements, and NAVAIR Plan Does Not Address One Element

As cited above, the NAVSEA plan does not address any key external factors; and neither the NAVAIR nor the NAVSEA plan provides information on how the command intends to evaluate the execution of its plan. For example, neither describes the scope, methodology, or schedule for the evaluations that will be needed to provide reliable data on goal attainment. Also, neither plan identifies how the command will monitor and use the results of such evaluations to adjust the plan's long-term goals and strategies to achieve desired levels of performance. Both plans do, however, indicate that the commands must continuously validate and

¹⁵[GAO/GGD-97-180](#).

The Navy Does Not Have an Integrated Servicewide Plan for Depot Maintenance

update their depot maintenance strategic plans to meet operational depot maintenance requirements.

The Navy does not have an integrated depot maintenance strategic plan that clearly links the elements of the commands' plans with the servicewide executive summary. As mentioned previously, the Navy-wide plan consists of an executive summary and five separate plans. 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.

Linkage of information between the executive summary and one or more of the plans, as well as linkage of information from the various plans, was sometimes unclear. For example, the executive summary identifies four "outcome metrics"—material availability, material reliability, mean down time, and ownership costs—to be used across all fleet and aviation depot maintenance activities. While the NAVAIR plan identifies metrics, the links between those metrics and the four Navy-wide outcome metrics were not specified. We could not determine if all four of the Navy-wide metrics were addressed, at least indirectly, by the metrics in the NAVAIR plan. Similarly, the commonalities or linkages among the plans were sometimes not evident. For example, the NAVAIR plan identifies optimizing the industrial base as one of its long-term strategic goals, but the NAVSEA plan is silent about this goal.

Navy officials told us that they did not publish a single plan because Navy commands and activities have different missions, capabilities, and maintenance processes. They acknowledged that the linkages among the plans and with the executive summary could have been more clearly established, and they said they will address these weaknesses in future plan updates. The limited integration across the separate plans and the executive summary could have negative effects such as making it difficult to (1) recognize areas where each plan does not address key Navy-wide concerns and (2) use the separate plans efficiently and effectively for servicewide decision making.

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

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

OUSD (AT&L) did not use an effective oversight mechanism to systematically evaluate the NAVAIR and NAVSEA's plans to determine whether they fully address all needed elements. DOD's *Depot Maintenance Strategy and Implementation Plans* states that the Depot Maintenance Working Integrated Process Team¹⁶ would monitor the development and subsequent execution of the services' depot maintenance strategic plans on a continuing basis. However, that team did not review any of the services' plans, according to OUSD (AT&L) and Navy officials.

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 (such as the implementation of some specific process-improvement initiatives) that the services' plans describe. The Maintenance Policy and Programs officials told us that they reviewed the NAVAIR and NAVSEA plans through a process consisting of informal meetings and conversations with service representatives. They told us that, through their review, they found that the NAVAIR and NAVSEA plans were a "good first start" but did not address all needed elements. However, Navy officials told us that they were not informed that the plans did not fully address elements of a results-oriented management framework nor were they asked to revise the plans. They also said that they did not receive any comments from OUSD (AT&L) about linkages among the plans and with the executive summary. Additionally, Maintenance Policy and Programs officials were unable to

¹⁶The Depot Maintenance Working Integrated Process Team is a group 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 from throughout DOD and is intended to serve as a mechanism for the coordinated review of DOD maintenance policies, systems, programs, and activities.

provide us with documentation of their review of the NAVAIR and NAVSEA plans.

In addition to reporting similar results in our review of Air Force depot maintenance planning, we recommended, among other things, that the Under Secretary of Defense for Acquisition, Technology and Logistics address this oversight concern. Specifically, we recommended that the Under Secretary develop and implement procedures to review revisions of the depot maintenance strategic plan to ensure that 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.

The Navy Lacked an Effective Oversight Mechanism to Systematically Evaluate the NAVAIR and NAVSEA Plans

At the time NAVAIR and NAVSEA developed their plans, the Navy lacked an effective oversight mechanism to help ensure that the plans fully address the elements of a results-oriented management framework. Office of the Chief of Naval Operations officials responsible for the Navy's strategic planning documents, including the NAVAIR and NAVSEA plans, did not review the plans to ensure that the documents fully address the elements of a results-oriented management framework. Furthermore, the Chief of Naval Operations officials did not provide direction to NAVAIR and NAVSEA regarding strategic planning elements that should be incorporated in their respective plans. Moreover, while Chief of Naval Operations officials told us that they conduct periodic reviews of depot maintenance programs and that these reviews help provide oversight of the plans' implementation, these reviews do not systematically assess the progress in achieving the plans' long-term goals.

While Navy officials responsible for the plans acknowledged some of the plans' weaknesses, they told us that they believe the plans more fully address the results-oriented management framework elements than our analysis reflects. These officials stated that (1) although the plans do not address some elements explicitly, the elements are implied in the plans' discussion of various initiatives and processes, and (2) experienced professionals involved in Navy depot maintenance would be able to recognize these elements. However, because the plans do not explicitly address these elements, they may not be clear to individuals not involved or less involved in developing the plans.

In our review of the Air Force depot maintenance plan, we reported similar oversight challenges for that service and recommended that the Secretary of the Air Force take actions to strengthen its oversight of the

plans. The recommended actions to improve the Air Force’s oversight parallel those listed previously in this report for the Under Secretary of Defense for Acquisition, Technology and Logistics.¹⁷

NAVAIR and NAVSEA Plans Do Not Fully Respond to OUSD (AT&L)’s Direction Designed to Meet Future Challenges

While the NAVAIR and NAVSEA depot maintenance strategic plans describe many initiatives and programs important to the NAVAIR and NAVSEA depots, they are 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 plans do 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 NAVAIR and NAVSEA plans each partially address 8 issues and do not address the remaining 2. Table 3 summarizes our evaluation of the extent to which the NAVAIR and NAVSEA plans address each of the 10 issues.

Table 3: The Extent to Which the NAVAIR and NAVSEA Depot Maintenance Strategic Plans Address OUSD (AT&L)’s Direction

OUSD (AT&L)–directed issues	Degree plan addresses issues: Overview and examples	
	NAVAIR plan	NAVSEA plan
Logistics transformation		
1. Future roles and capabilities envisioned for the depots and how these capabilities will be quantified and measured	Partially addresses: The plan notes that the role of the depots is to establish and sustain capabilities to support future weapon system requirements, but the plan does not define these projected future capabilities (e.g., maintenance, repair, and overhaul) or discuss how these capabilities will be quantified or measured.	Partially addresses: The plan notes that the role of the Naval Shipyards is to provide the capability on ships and weapons systems required by Navy component commanders and combatant commanders, but the discussion is limited to workforce capabilities and does not describe other capabilities (e.g., maintenance, repair, and overhaul) that NAVSEA envisions for the shipyards, or how those capabilities would be quantified or measured.

¹⁷GAO-10-526.

Degree plan addresses issues: Overview and examples

OUSD (AT&L)-directed issues	NAVAIR plan	NAVSEA plan
2. Actions being taken to transform depots into the envisioned future capability	Partially addresses: The plan mentions capability and capacity measurement, but only in the context that this is a framework NAVAIR plans to develop. Under the future capabilities and readiness goal, the plan identifies the need to develop enterprisewide capability and capacity baselines and tools to plan and analyze capability and capacity so that NAVAIR can optimize delivery of products to meet warfighter requirements. However, the plan does not identify the resources required to develop a baseline, nor the method and time frame for doing so.	Partially addresses: The plan refers to a continuous process-improvement program but does not discuss the specific actions and associated time frames to transform the shipyards to the envisioned future capabilities. For example, the plan notes that one of the goals of a continuous process-improvement program is to increase workforce efficiencies; however, the plan does not identify actions to achieve the efficiencies that will assist with the transformation.
3. Management approaches for integrating various depot capabilities, including public- and private-sector sources, joint, interservice, and multinational capabilities	Partially addresses: The plan discusses management approaches for integrating public- and private-sector depot sources. For example, the plan notes that one way of maximizing support for the warfighter is by exploring opportunities provided through public-private partnerships. However, the plan is silent with regard to joint, interservice, and multinational capabilities.	Partially addresses: The plan discusses management approaches for integrating public- and private-sector depot sources. For example, the plan discusses several actions, such as reassigning intermediate-level workload at regional maintenance centers and intermediate maintenance facilities to public and private shipyards, that NAVSEA could take to mitigate fluctuations in projected public shipyard workload. However, the plan is silent with regard to joint, interservice, and multinational capabilities.
Core logistics capability assurance		
4. Actions being taken or contemplated to (a) identify core requirements at program initiation, (b) ensure that depot source of repair decisions are identified upon program initiation, (c) encourage the formation of public-private partnerships, and (d) identify and rectify core capability deficiencies	Partially addresses: The plan partially addresses three of the four types of actions. For example, the plan states that NAVAIR will support the warfighter by exploring opportunities to provide labor through commercial partnerships; yet, the plan does not identify these opportunities nor discuss how these opportunities would affect core workload and requirements.	Partially addresses: The plan partially addresses two of the four types of actions. For example, the plan cites a “One Shipyard” concept that includes sharing of resources among public shipyards and partnering with private shipyards, yet the plan does not provide details on how NAVSEA may encourage the formation of these partnerships.
5. Methods used for workload estimating and projected effects of weapon system retirements and bed-down (i.e., the act or process of locating a weapon system at a particular base)	Does not address: The plan does not discuss the methods for estimating the amount of workload, nor does the plan discuss the projected effects of weapon system retirements and bed-down on depot workloads.	Does not address: The plan does not discuss the methods for estimating the amount of workload, nor does the plan discuss the projected effects of weapon system retirements and bed-down on depot workloads.

OUSD (AT&L)–directed issues	Degree plan addresses issues: Overview and examples	
	NAVAIR plan	NAVSEA plan
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 discusses the Qualified and Proficient Technician Training program that is designed to provide existing employees new and enhanced skills, but it does not discuss NAVAIR-wide or depot-specific actions to identify emerging skill requirements.	Partially addresses: The plan notes that new weapon systems and modifications will result in new workforce skill requirements, but it does not discuss NAVSEA-wide or depot-specific actions to identify these emerging skill requirements and the reengineering needed to enable existing employees to gain the emerging skills.
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	Partially addresses: The plan discusses a Workload Shaping model that includes forecasts of attrition rates, but it does not describe the methods used for forecasting projected losses (e.g., by specialty and by year).	Partially addresses: The plan discusses using shipyard demographic data to forecast future workforce attrition rates, but it does not describe the methods used for forecasting projected losses (e.g., by specialty and by year).
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 notes recruitment actions such as hiring entry-level engineers and production workers, but it does not discuss a comprehensive management approach for recruiting and training new employees.	Partially addresses: The plan notes recruitment actions such as hiring at least 100 apprentice employees at each Navy Shipyard each year, but it does not discuss a comprehensive management approach for recruiting and training new 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 benchmark for evaluating the adequacy of investment funding or the basis for selecting the benchmark.	Does not address: The plan does not discuss any benchmark for evaluating the adequacy of investment funding or the basis for selecting the benchmark. While the plan states that NAVSEA will continue making an annual capital investment of at least 6 percent of revenue, it does not identify how NAVSEA will evaluate the adequacy of this investment.
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 discusses several factors that affect capital-investment planning, such as environmental safety and security and customer priorities. However, it does not describe a method for prioritizing needed investments nor the quantitative data that can be used to project the level of funding needed for facilities and equipment.	Partially addresses: The plan identifies the amounts of funding needed for current and future military construction, but it does not describe a method for prioritizing these investments.

Source: GAO analysis of NAVSEA and NAVAIR data.

Note: Among other things, the 2007 *U.S. Navy Depot Maintenance Strategic Plan* contained NAVAIR's *Naval Aviation Industrial Strategy* and NAVSEA's *Naval Shipyard Business Plan*. NAVAIR and NAVSEA also published updates in 2009. We reviewed information from the 2007 and 2009 documents in our evaluation of the NAVAIR and NAVSEA plans.

As discussed for the elements of a results-oriented management framework, OUSD (AT&L) and the Navy 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 NAVAIR and NAVSEA plans may limit the service's assurance that its depots are postured and resourced to meet future maintenance requirements.

NAVAIR and NAVSEA Plans Partially Address the Three Logistics Transformation Issues

The NAVAIR and NAVSEA plans partially address 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 two plans generally discuss the future roles of their depots, but the plans do not discuss projected future capabilities of the depots or how those capabilities will be measured. The NAVAIR plan states the general role of the Fleet Readiness Centers is to establish and sustain capabilities to support future weapon systems, and the NAVSEA plan states that Naval Shipyards' role is to provide the capability on ships and weapon systems required by Navy component commanders and combatant commanders. However, the NAVAIR and NAVSEA plans have a limited discussion on projected future capabilities despite changes to the Navy's force structure. For example, the February 2006 *Quadrennial Defense Review Report* noted that the integration of the Navy's and Marine Corps' tactical aircraft would result in reducing the procurement of 500 Navy tactical aircraft. This report also mentioned that four of the Navy's oldest nuclear ballistic missile submarines would reenter service after being converted into guided-missile and special-operations platforms. NAVAIR officials told us that they did not consider the effect these force structure changes would have on the strategic plan when it was being developed. In addition, these officials said that they will consider any effects the 2010 *Quadrennial Defense Review Report* would have on the plan when it is next updated.¹⁸

Additionally, the NAVAIR and NAVSEA plans partially address actions they are taking to transform their depots. For example, under its future

¹⁸DOD, *Quadrennial Defense Review Report*. (Washington, D.C.: February 2010)

capabilities and readiness goal, the NAVAIR plan discusses developing capability and capacity baselines and tools so NAVAIR can improve the delivery of products to meet warfighter requirements. However, the plan does not identify the resources, methodology, and time frame required to develop the baselines and tools. The NAVSEA plan notes that one of the goals of the command's continuous process-improvement program is to increase workforce efficiencies, but the plan does not describe these efficiencies or the specific actions and time frames to achieve them.

Moreover, the NAVAIR and NAVSEA plans partially address the management approach for integrating various depot maintenance capabilities, including public- and private-sector sources as well as joint, interservice, and multinational capabilities. Both plans discuss a management approach for integrating public- and private-sector depot sources. For example, the NAVAIR plan notes that one way of maximizing support for the warfighter is by exploring opportunities provided through public-private partnerships. In addition, the NAVSEA plan notes that workload fluctuations at public shipyards can be mitigated by reassigning some intermediate-level work at regional maintenance centers and facilities to public- and private-sector shipyards. However, both plans are silent with regard to a management approach for integrating joint, interservice, and multinational capabilities. Because the plans do not discuss their approaches for integrating these other three types of capabilities, it is unclear if NAVAIR and NAVSEA are positioned to reduce redundancies and take advantage of potential cost-saving measures.

NAVAIR and NAVSEA Plans Partially Address One of the Core Logistics Capability–Assurance Issues and Do Not Address the Other

The NAVAIR and NAVSEA plans partially address one core logistics capability–assurance issue and do not address one issue. For the issue that both plans partially address, OUSD (AT&L) directed the services to address four types of actions being taken or contemplated: NAVAIR's plan contains information on three of the four types of actions, and NAVSEA's plan contains information on two of the four.

- **Identify core requirements at program initiation.** The NAVAIR plan notes that industrial and maintenance coordinators work with weapon acquisition program offices to identify core requirements during the acquisition process, including program initiation. The NAVSEA plan does not have a discussion regarding identifying core requirements.
- **Ensure that depot source of repair decisions are made upon program initiation.** Neither plan discusses actions that the command

would take to ensure that depot source of repair decisions for new systems are made upon program initiation.

- **Encourage the formation of public-private partnerships.** Both plans describe actions to encourage the formation of public-private partnerships. For example, the NAVAIR plan states that the command will support opportunities to provide labor through commercial partnerships, but the plan does not identify these opportunities. The NAVSEA plan discusses the “One Shipyard” concept that includes the sharing of resources among public shipyards and partnering with private shipyards, but it does not provide details on how NAVSEA may encourage the formation of partnerships.
- **Identify and rectify core capability deficiencies.** Both plans describe actions to address deficiencies, but neither describes how the deficiencies will be identified. For example, the NAVAIR plan notes that the command will establish strong liaison between the maintenance activities and the acquisition community. The NAVSEA plan notes that core requirement levels will be sustained, in part, by reducing the total workforce by 20 percent or 22,000 employees.

For the second of the two core logistics capability–assurance issues, neither plan discusses the OUSD (AT&L) direction to address the projected effects of weapon system retirements and bed-down (i.e., the act or process of locating a weapon system at a particular base) and retirements, despite changes to the Navy’s force structure for aircraft and ships, as mentioned previously. In addition, the methods for estimating depot workload are not addressed in the NAVAIR and NAVSEA plans. In contrast, we reported DOD’s method of compiling and internally reporting core requirements and associated workloads for 2007 did not reveal core capability shortfalls, even though the services—including the Navy—had identified shortfalls in specific equipment/technology categories.¹⁹

¹⁹GAO, *Depot Maintenance: Actions Needed to Identify and Establish Core Capability at Military Depots*, [GAO-09-83](#) (Washington, D.C.: May 14, 2009).

NAVAIR and NAVSEA Plans Partially Address Each of the Three Workforce Revitalization Issues

The NAVAIR and NAVSEA plans both partially address each of the three OUSD (AT&L)–directed workforce revitalization issues: reengineering strategies, replenishment requirements, and replenishment strategies. Regarding the workforce reengineering strategies issue, the NAVAIR plan discusses the Qualified and Proficient Technician Training program that is designed to provide existing employees new and enhanced skills, and the NAVSEA plan notes that new weapon systems and technology modifications will require new workforce skill requirements. However, neither plan discusses commandwide or depot-specific actions to identify emerging skill requirements. Also, the NAVSEA plan does not discuss the reengineering needed to enable existing employees to gain the emerging skills.

Regarding workforce replenishment requirements, both plans include some information on forecasts of future workforce levels. For example, the NAVAIR plan mentions its Workload Shaping model that includes forecasts of workforce attrition rate. While the NAVSEA plan discusses using shipyard demographics data to forecast future workforce attrition rates and an annual 5 percent attrition rate for the workforce, it does not provide details regarding attrition effects on more specific groups such as blue- and white-collar workers. In addition, both plans do not describe the methods used for forecasting projected losses (e.g., by specialty and by year), even though the OUSD (AT&L) direction explicitly called for discussion of those methods.

To address the workforce replenishment strategy issue, both plans provide examples of recruiting actions, but they have limited information on training—a second part of the OUSD (AT&L)–directed issue. The NAVAIR plan briefly mentions hiring entry-level engineers and production workers. Similarly, the NAVSEA plan talks about hiring 100 apprentice employees at each Naval Shipyard each year. In addition to having few details on the cited hiring plans, neither plan discusses a comprehensive management approach for the recruitment and training.

The NAVAIR and NAVSEA plans’ limited and missing information for the three issues in the workforce revitalization area is noteworthy in the contexts of our previous findings on the DOD depot maintenance workforce and information in the OUSD (AT&L)’s document directing the services to provide the plans. In 2003, we reported that DOD faced significant management challenges in succession planning to maintain a

skilled workforce at its depot maintenance facilities.²⁰ 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 NAVAIR and NAVSEA are positioned to address the challenges that their depots face.

NAVAIR and NAVSEA Plans Address One Capital-Investment Issue but Do Not Address the Other

The NAVAIR and NAVSEA plans partially address the capital-investment issue of quantifying current capabilities but do not address the other issue—capital-investment benchmarks. Neither the benchmarks for evaluating the adequacy of investment funding nor NAVAIR's and NAVSEA's basis for selecting the benchmarks are in the plans despite OUSD (AT&L)'s direction to address these concerns. Even though neither plan addresses capital-investment benchmarks, the NAVSEA plan notes that the command intends to continue making an annual capital investment of at least 6 percent of revenue, as required by law, to sustain depot infrastructure requirements.²¹ An OUSD (AT&L) official mentioned that NAVSEA's citing of the 6 percent capital investment should be seen as addressing the benchmark issue. While the NAVAIR plan did not mention the 6 percent requirement, NAVAIR officials told us they intend to continue making capital investments of at least this amount.

²⁰GAO, *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).

²¹Section 2476 of Title 10 requires that each fiscal year the Secretary of each military department shall invest in the capital budgets of certain "covered depots" of that department a total amount equal to not less than 6 percent of the average total combined workload funded at all of the depots of that military department for the 3 preceding fiscal years. Section 101(a)(8) of Title 10 defines the term "military departments" as the Department of the Army, Department of the Navy, and Department of the Air Force.

The NAVAIR and NAVSEA plans partially address the issues pertaining to the methods for quantitatively articulating these capital-investment concerns: current capabilities, current and projected deficiencies, and the capabilities that planned investment will provide. While the NAVAIR plan notes that its capital investments are prioritized in order to support naval aviation requirements, the NAVSEA plan discusses investments in the context of supporting shipyard operations. Both plans discuss an infrastructure-investment prioritization process but do not describe the method for prioritizing needed investments. In addition, the NAVAIR and NAVSEA plans do not present quantitative data on the projected funding (or shortfalls) for facilities and equipment, despite both plans noting infrastructure shortfalls and funding limitations. Modernizing and refurbishing their facilities is an essential step for optimizing their operating efficiencies. Key steps in modernizing facilities are articulating investment priorities, quantifying shortfalls, and discussing how these shortfalls may affect accomplishing strategic goals.

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 facilities and plant equipment had declined sharply in the mid-1990s as a result of defense downsizing, depot closures and consolidations, and DOD's plan to increase its reliance on the private sector for logistics support of new weapon systems.²² 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. As with any business, modernizing and refurbishing plant and equipment for optimal operating efficiency, as well as acquiring new capabilities and cutting-edge technologies linked to new workloads, are important to the future viability of the military depots. An incomplete discussion of capital investment could negatively limit Navy decision makers' ability to purchase depot infrastructure, equipment, and process improvements.

Conclusions

OUSD (AT&L) officials told us that the primary intent of 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

²²GAO, *Defense Maintenance: Sustaining Readiness Support Capabilities Requires a Comprehensive Plan*, [GAO-01-533T](#) (Washington, D.C.: Mar. 23, 2001).

Depot Maintenance Strategy and Implementation Plans states that (1) each service will conduct depot maintenance strategic planning that focuses on achieving the DOD depot maintenance strategy and (2) the DOD strategy will ensure that DOD is postured to meet the national security and materiel readiness challenges of the 21st century. However, NAVAIR's and NAVSEA's plans do not provide a comprehensive, results-oriented management framework to efficiently and effectively guide the Navy's future actions, nor do they 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, focusing on the development of separate command-level plans and an executive summary, rather than a single Navy-wide plan, may have made it more difficult to determine where additional information was needed to address the elements and issues at the servicewide level. Another primary reason for not correcting weaknesses in the plans is that OUSD (AT&L) and Navy do not have effective oversight mechanisms in place to promptly identify the weaknesses, communicate weaknesses to the plan developers, monitor the revision of the plans to ensure that the weaknesses have been addressed, and determine whether goals are being achieved. These weaknesses in content, linkage, and oversight resulted in a missed opportunity to identify a more complete Navy-wide vision for the effective and efficient operation of its depots in the future. For example, had NAVSEA and NAVAIR identified and implemented a systematic program evaluation and a thorough set of metrics to directly assess goal achievement, they and the Navy overall would have additional tools for reacting in a timely manner to potential issues and challenges in executing the strategies. Most importantly, integration of the plans could have resulted in the Navy 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. On a closing note, we previously made a recommendation to OUSD (AT&L) to develop and implement procedures to (1) review revisions of the depot maintenance strategic plan to ensure they fully address all key elements of a results-oriented management framework, (2) explicitly address any OUSD (AT&L) direction for the plans, and (3) periodically assess progress and corrective actions to the extent needed in meeting the plans' goals. We reassert the need for DOD to implement that recommendation.

Recommendations for Executive Action

To provide greater assurance that Navy depots will be postured and resourced to meet future maintenance requirements, we recommend that the Secretary of Defense direct the Secretary of the Navy to take the

following four actions to revise the Navy'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 plans should the Navy continue to submit individual depot maintenance strategic plans instead of a single Navy-wide plan.
- Fully and explicitly address the four critical areas of logistics transformation, core logistics capability assurance, workforce revitalization, and capital investment, consistent with OUSD (AT&L) criteria.
- 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.

Agency Comments and Our Evaluation

In written comments on a draft of this report, DOD concurred with our four recommendations to provide greater assurance that Navy depots will be postured and resourced to meet future maintenance requirements. DOD's written comments are reprinted in appendix II.

The department concurred with our recommendation to direct the Secretary of the Navy to revise the Navy'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 Navy and the other services to more clearly address all elements needed for a results-oriented strategy in the next OUSD (AT&L) request to the services to update their depot maintenance strategic plans. DOD noted that the updates are expected in early 2011, after completion of the mandated future depot capability study.

DOD also concurred with our recommendation to direct the Secretary of the Navy to revise the Navy's depot maintenance strategic plan to demonstrate clear linkages among the plans, should the Navy continue to submit individual depot maintenance plans instead of a single Navy-wide

plan. In its response, DOD stated that it will direct the Navy and the other services to more clearly demonstrate the linkages of their depot maintenance strategies to the DOD depot maintenance strategic plan in the next OUSD (AT&L) request to the services to update their depot maintenance strategic plans.

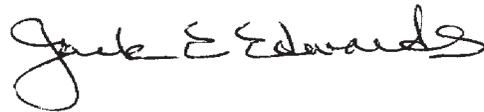
The department also concurred with our recommendation to direct the Secretary of the Navy to revise the Navy's depot maintenance strategic plan to fully and explicitly address OUSD (AT&L)'s direction that provides a framework for the services to address the four critical areas of logistics transformation, core capability assurance, workforce revitalization, and capital investment, consistent with OUSD (AT&L) criteria. DOD stated that it will direct the Navy 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 their depot maintenance strategic plans.

Additionally, DOD concurred with our recommendation to direct the Secretary of the Navy to revise the Navy's depot maintenance strategic plan 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. In its response, DOD stated that it will direct the 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 services are meeting OUSD (AT&L) and service plans' goals.

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

We are sending copies of this report to the Secretary of Defense, the Secretary of the Navy, the Office of the Chief of Naval Operations, Naval Air Systems Command (NAVAIR), and Naval Sea Systems Command (NAVSEA). 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, please call me at (202) 512-8246 or edwardsj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Staff members who made key contributions to this report are listed in appendix III.

A handwritten signature in black ink that reads "Jack E. Edwards". The signature is written in a cursive style with a large, looping initial "J".

Jack E. Edwards
Director
Defense Capabilities and Management

Appendix I: Scope and Methodology

In this report, we address two questions: (1) To what extent does the Navy's depot maintenance strategic plan address key elements of a results-oriented management framework? and (2) To what extent does the Navy's depot maintenance strategic plan address Office of the Under Secretary of Defense for Acquisition, Technology and Logistics' (OUSD [AT&L]) direction that was designed to provide a framework for the services to meet future challenges? Because Naval Air Systems Command (NAVAIR) and Naval Sea Systems Command (NAVSEA) are collectively responsible for 94 percent of the Navy's depot maintenance workload, we focused the scope of our review on NAVAIR's *Naval Aviation Industrial Strategy*, NAVSEA's *Naval Shipyard Business Plan*, and the 2009 update that each command provided.¹

We used the same set of methodological procedures to answer both questions, and each type of procedure was performed simultaneously for the two questions. To understand the context of our analysis, we first reviewed relevant laws; Department of Defense (DOD) and Navy instructions governing depot maintenance; and depot maintenance-related reports issued by agencies and organizations such as GAO, DOD, the Logistics Management Institute, and RAND. We then used qualitative content analyses to compare the Navy plans 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 plans using this instrument. To verify preliminary observations from this initial analysis, a second team member concurrently conducted an independent analysis of the plans. 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 Air Force depot maintenance strategic plans. We subsequently met with Navy officials to confirm our understanding of the plans and sought additional information where our preliminary analyses revealed that the plans partially address or do not address the criteria. We also interviewed and obtained documentary evidence from relevant OUSD (AT&L) officials regarding the office's oversight of the services' plans. Additionally, we interviewed depot leaders and strategic

¹The Navy's 2007 *U.S. Navy Depot Maintenance Strategic Plan* also contained an executive summary and a plan for each of three other commands: the Naval Undersea Warfare Center, Naval Surface Warfare Center, and the Space and Naval Warfare Systems Command.

planning personnel at four NAVAIR and NAVSEA depots to obtain first-hand information on issues the depots face. We also obtained data on workload and personnel from the Navy and determined that these data were sufficiently reliable for our report.

The organizations and installations where we visited and conducted interviews are listed in table 4.

Table 4: Organizations Contacted to Obtain Information about the Navy’s Depot Maintenance Strategic Plan

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
Joint Depot Maintenance Activities Group, Columbus, Ohio
Navy
Office of the Secretary of the Navy, Arlington, Virginia
Office of the Chief of Naval Operations, Arlington, Virginia
Naval Air Systems Command, Patuxent River, Maryland
Naval Sea Systems Command, Washington, D.C.
Fleet Readiness Center Southeast, Jacksonville, Florida
Portsmouth Naval Shipyard, Portsmouth, New Hampshire
Other
The Logistics Management Institute, McLean, Virginia

Source: GAO.

We conducted this performance audit from July 2009 through June 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.

Appendix II: Comments from the Department of Defense

Note: Page numbers in the draft report may differ from those in this report.



LOGISTICS AND
MATERIEL READINESS

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

MAY 28 2010

Mr. Jack E. Edwards
Director, Defense Capabilities and Management
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Mr. Edwards:

This is the Department of Defense (DoD) response to the GAO Draft Report, GAO-10-585, "DEPOT MAINTENANCE: Improved Strategic Planning Needed to Ensure That Navy Depots Can Meet Future Maintenance Requirements," dated April 27, 2010 (GAO Code 351381).

The Department concurs with all four recommendations and appreciates the opportunity to comment on the GAO Draft Report. (Attached)

My point of contact in this matter is Mr. Hal Amerau. He can be reached at (703) 697-1903.

Sincerely,


Alan F. Estevez
Principal Deputy

Attachment:
As stated

GAO DRAFT REPORT – DATED APRIL 27, 2010
GAO-10-585 (GAO CODE 351381)

"DEPOT MAINTENANCE: IMPROVED STRATEGIC PLANNING NEEDED
TO ENSURE THAT NAVY DEPOTS CAN MEET FUTURE MAINTENANCE
REQUIREMENTS"

DEPARTMENT OF DEFENSE COMMENTS
TO THE RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommends that the Secretary of Defense direct the Secretary of the Navy to revise the Navy's Depot Maintenance Strategic Plan to 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. (See page 28/GAO Draft Report.)

DOD RESPONSE: Concur with comment. Rather than revise the FY08 Navy Depot Maintenance Strategic Plan, the Navy and the other Services will be directed to more clearly address all elements needed for a results-oriented strategy in the next OUSD (AT&L) request for Service updates to their Depot Maintenance Strategic Plans. This update is expected in early 2011 after completion of the FY09 National Defense Authorization Act, Section 322 Future Depot Capability Study.

RECOMMENDATION 2: The GAO recommends that the Secretary of Defense direct the Secretary of the Navy to revise the Navy's Depot Maintenance Strategic Plan to demonstrate clear linkages among plans should the Navy continue to submit individual depot maintenance strategic plans instead of a single Navy-wide plan. (See page 28/GAO Draft Report.)

DOD RESPONSE: Concur with comment. Rather than revise the FY08 Navy Depot Maintenance Strategic Plan, the Navy and the other Services will be directed to more clearly demonstrate the linkages of their depot maintenance strategies to the DOD Depot Maintenance Strategic Plan in the next OUSD (AT&L) request for Service updates to their Depot Maintenance Strategic Plans. This update is expected in early 2011 after completion of the FY09 National Defense Authorization Act, Section 322 Future Depot Capability Study.

RECOMMENDATION 3: The GAO recommends that the Secretary of Defense direct the Secretary of the Navy to revise the Navy's Depot Maintenance Strategic Plan to fully and explicitly address the four critical areas of logistics transformation, core capability assurance, workforce revitalization, and capital investment, consistent with OUSD (AT&L) criteria. (See page 28/GAO Draft Report.)

DOD RESPONSE: Concur with comment. Rather than revise the FY08 Navy Depot Maintenance Strategic Plan, the Navy and the other Services will be directed to explicitly address the OUSD (AT&L) direction and framework in the next OUSD (AT&L) request for Service updates to their Depot Maintenance Strategic Plans. This update is expected in early 2011 after completion of the FY09 National Defense Authorization Act, Section 322 Future Depot Capability Study.

RECOMMENDATION 4: The GAO recommends that the Secretary of Defense direct the Secretary of the Navy to revise the Navy's depot maintenance strategic plan to develop and implement procedures to review revisions of the depot maintenance strategic plan to ensure they fully address all key elements of a result-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. (See page 28/GAO Draft Report.)

DOD RESPONSE: Concur. The next OUSD (AT&L) request for Service updates to their Depot Maintenance Strategic plans is expected in early 2011 after completion of the FY09 National Defense Authorization Act, Section 322 Future Depot Capability Study. In that update request the Services will be directed to explicitly address the procedures noted in the recommendation. Additionally, a process will be developed by OUSD (AT&L) to periodically assess progress and corrective actions to ensure the Services are meeting OUSD (AT&L) and Service plans' goals.

Appendix III: GAO Contacts and Staff Acknowledgments

GAO Contact

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

Staff Acknowledgments

Key contributors to this report were Sandra B. Burrell, Assistant Director; Allen Westheimer; Steve Boyles; Ron La Due Lake; Joanne Landesman; Cristina M. Ruggiero-Mendoza; Michael Willems; and Elizabeth Wood.

Related GAO Products

Depot Maintenance: Improved Strategic Planning Needed to Ensure That Air Force Depots Can Meet Future Maintenance Requirements. [GAO-10-526](#). Washington, D.C.: May 14, 2010.

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

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.

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.

Defense Maintenance: Sustaining Readiness Support Capabilities Requires a Comprehensive Plan. [GAO-01-533T](#). Washington, D.C.: March 23, 2001.

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