

September 2006

DEPOT MAINTENANCE

Improvements Needed to Achieve Benefits from Consolidations and Funding Changes at Naval Shipyards





Highlights of [GAO-06-989](#), a report to congressional committees

Why GAO Did This Study

To improve fleet support activities, the Navy is consolidating maintenance facilities and converting its shipyards from financing under the Navy Working Capital Fund to funding through direct appropriations (direct funding). Puget Sound Naval Shipyard was converted to direct funding in 2003. The National Defense Authorization Act for Fiscal Year 2006 directed the Navy to assess the impact of converting Puget Sound to direct funding and directed that GAO review the Navy's report. The Navy submitted its report to Congress in March 2006, confirming its position that direct funding was more advantageous than working capital funding and can best satisfy fleet maintenance priorities. GAO's objectives were to evaluate the extent to which the Navy's report (1) provided data and other supporting evidence for its overall assessment of the impact of converting Puget Sound to direct funding, (2) addressed unresolved issues that had been identified in prior studies, and (3) disclosed any other issues that have affected the implementation of direct funding.

What GAO Recommends

GAO is recommending actions to improve total cost visibility, performance measures, and information systems at naval shipyards, and DOD concurred. GAO has added a matter for congressional consideration to assist in addressing information system improvements.

www.gao.gov/cgi-bin/getrpt?GAO-06-989.

To view the full product, including the scope and methodology, click on the link above. For more information, contact William Solis at (202) 512-5140 or solisw@gao.gov.

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What GAO Found

The Navy's March 2006 report to Congress did not provide data and other supporting evidence for its overall assessment of the impact of converting Puget Sound Naval Shipyard to direct funding. While the Navy reported on the matters specified in the defense authorization act, it did not provide data needed to support the Navy's position that direct funding was more advantageous than working capital funding and can best satisfy fleet maintenance priorities. More specifically, the report did not provide evidence that direct funding had provided for a more agile workforce—the ability to more easily move workers among maintenance projects in response to fleet priorities—which was a key benefit the Navy claimed was achieved by converting to direct funding.

The Navy's March 2006 report did not show data that adequately addressed two key issues—cost visibility and performance metrics—which had been identified as unresolved in prior studies by GAO and others. First, the report did not present the Navy's approach and methodology for achieving total cost visibility for specific work performed. Determining the total cost of delivering specific ship maintenance work is recommended by federal accounting standards and is a key metric for evaluating a consolidated facility's productivity and performance. Although the Navy was attempting to gather cost data to show the full costs of operations at its shipyards, GAO found that the Navy has not developed policies and procedures to routinely and systematically accumulate these total cost data. Second, with respect to performance metrics, the Navy's report did not provide data that demonstrated improved results, such as increased productivity, of consolidating ship maintenance facilities at Puget Sound and converting the shipyard to direct funding. Prior reviews have raised issues related to total cost visibility and performance metrics as unresolved issues and recommended the Navy take corrective actions. While the Department of Defense concurred, it has not yet resolved these issues. Consequently, complete and reliable cost data are lacking for making fully informed decisions related to ship maintenance activities. Further, without performance metrics to measure progress toward meeting goals and objectives, the Navy lacks data needed for evaluating the changes it has made and making fully informed decisions related to the management of consolidated ship maintenance activities.

The Navy's March 2006 report did not disclose shortcomings in its information systems at Puget Sound Naval Shipyard that have hindered its ability to efficiently and reliably meet its financial and business operations reporting requirements. The information systems at the consolidated facility were not designed to provide the types of cost and operational data being requested under direct funding. As a result, the systems have required extensive changes and manual administrative efforts by shipyard personnel to support the consolidated facilities' financial and business operations reports being requested.

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September 14, 2006

Congressional Committees

Since the 1990s, the Navy has implemented changes aimed at making its fleet support activities more efficient and effective. These changes have included consolidation of the management, operations, and funding of facilities performing ship maintenance. The first facilities to be consolidated, in 1998, were the Pearl Harbor Naval Shipyard and the Naval Intermediate Maintenance Facility in Hawaii.¹ In 2003, Puget Sound Naval Shipyard in Washington State was consolidated with the Naval Intermediate Maintenance Facility, which includes the Trident Refit Facility Bangor and Everett Intermediate Maintenance Facility. Prior to these consolidations the shipyards were financed through the Navy working capital fund, while the intermediate maintenance facilities were funded through direct appropriations that authorized the Department of Defense (DOD) to incur obligations for designated purposes (such as ship maintenance or modifications), sometimes referred to as direct funding or mission funding.² A working capital fund is a type of intragovernmental revolving fund that operates as a self-supporting entity that conducts a regular cycle of businesslike activities. Working capital funds function from the fees charged for the services they provide consistent with their statutory authority. With the consolidations of maintenance facilities at Pearl Harbor and Puget Sound, the shipyards have been converted to direct funding so that the consolidated facilities operate under a single financial structure. The Navy set up a single financial structure for the consolidated facilities using direct funding in the belief that direct funding was more flexible than working capital funding and would help enable the

¹ The Navy maintains its surface ships and submarines at three levels: organizational, intermediate, and depot. Organizational maintenance involves routine tasks, such as inspection, lubrication, and assembly of minor parts that are typically performed by a ship's crew. Maintenance beyond the capability or capacity of a ship's crew is performed at Navy intermediate maintenance facilities and consists of short-term, time-critical projects. Depot-level maintenance, traditionally done in shipyards, requires high levels of skills and equipment beyond the capability or capacity of ships' crews and intermediate personnel and facilities.

² A direct-funded activity receives an operating budget that provides the total appropriated funding for the fiscal year without identification of the specific work to be accomplished. Direct-funded shipyards use appropriated funds for a specific fiscal year to perform depot-level maintenance.

consolidated facilities to better achieve Navy fleet readiness goals. The Navy plans to convert its two remaining shipyards on the East Coast—Norfolk and Portsmouth—to direct funding starting October 1, 2006.

In our prior reviews of the consolidation of maintenance facilities at Pearl Harbor, we identified unresolved issues in financial management related to the conversion of the shipyard to direct funding. A more recent review of the conversion of Puget Sound Naval Shipyard to direct funding by the DOD Office of the Inspector General (DOD-IG) identified weaknesses in cost visibility and financial management at that facility. Also, the Congressional Budget Office (CBO) has recently identified issues related to reduced cost visibility and financial management in converting shipyards from working capital funding to direct funding. Section 322(a) of the National Defense Authorization Act for Fiscal Year 2006 prohibited the Navy from converting its two East Coast shipyards to direct funding prior to October 1, 2006, and Section 322(b) of the act required the Secretary of the Navy to submit a report to the congressional defense committees by March 1, 2006, that assessed the effects of converting Puget Sound from the working capital fund to direct funding.³ The Navy report was to include an assessment of 11 matters, including cost visibility, operational and financial flexibility, capital improvements, buyout costs⁴ associated with the transfer of the Navy's two East Coast shipyards from the Navy working capital fund to direct funding, and compliance with legislative provisions. (The 11 specific matters in Section 322(b)(2) are listed in app. I.) The Navy submitted its report to Congress on March 1, 2006. The report's overall assessment was that direct funding provides for a more agile workforce that can best satisfy fleet maintenance priorities without sacrificing cost visibility, performance accountability, or quality of work. According to the Navy, direct funding, in concert with regional consolidation, enabled

³ The Navy was also required by Section 322(c) of the National Defense Authorization Act for Fiscal Year 2006 to submit a report to congressional defense committees that proposed congressional budget exhibits for use in connection with the funding of Navy shipyards on a direct basis. Congress also requested that CBO submit a review of the Navy's report on the proposed budget exhibits. The Navy provided preliminary information in the March 1, 2006, report, and a more complete response March 20, 2006. In April 2006, CBO reported that, in general, the Navy's proposed budget exhibits for direct-funded shipyards addressed the matters specified in the congressional request and were consistent with CBO's template for reporting.

⁴ Buyout costs are the costs associated with making the working capital fund financially whole when transferring working fund activities to direct funding. These costs include undepreciated capital assets, accrued employee leave, liabilities, and accumulated operating results.

maintenance activities to quickly respond to emergent fleet operational requirements.

Section 322(b)(3) also directed our office to review the Navy's report, which was to include our assessment of whether the report adequately addresses the 11 matters identified in Section 322(b)(2) of the act. Our objectives were to evaluate the extent to which the Navy's report (1) provided data and other supporting evidence for its overall assessment of the impact of converting Puget Sound to direct funding, (2) addressed unresolved issues that had been identified in prior studies, and (3) disclosed any other issues that have affected the implementation of direct funding at Puget Sound Naval Shipyard. On May 18 and 19, 2006, we briefed congressional staff on our preliminary observations. This report expands on the information delivered in those briefings and includes recommendations to the Secretary of Defense.

To conduct our evaluation we reviewed the information and data presented in the Navy's report to support its assessment of the matters specified in Section 322(b)(2). We obtained prior reports on the conversion of Pearl Harbor and Puget Sound naval shipyards to direct funding and identified issues that were determined to be unresolved at the time these studies were conducted. We discussed the Navy's March 2006 report with officials responsible for its development and visited the consolidated facility at Puget Sound to obtain information on the implementation of direct funding. We also obtained and analyzed additional supporting documentation from Navy officials regarding the matters covered in the report. As a part of our assessment of cost visibility, performance metrics, and information systems, we discussed with Navy officials the quality and reliability of financial and operations data generated for the consolidated facility. We conducted our work between March and May 2006 in accordance with generally accepted government auditing standards. Our scope and methodology are discussed in more detail at the end of this letter.

Results in Brief

Our review of the Navy's March 2006 report to Congress showed that the report did not provide data and other supporting evidence for its overall assessment of the impact of converting Puget Sound Naval Shipyard to direct funding. While the Navy reported on each of the matters specified in Section 322(b)(2), it did not provide data and other information needed to support the Navy's position that direct funding was more advantageous than working capital funding and can best satisfy fleet maintenance priorities. More specifically, the report did not provide evidence that direct

funding had provided for a more agile workforce—the ability to more easily move workers among maintenance projects in response to fleet priorities—which was a key benefit the Navy claimed was achieved by converting to direct funding. The Navy’s report also did not provide complete information on some specific matters. For example, complete information was not provided in the report on the shipyard’s capital improvement program because the report did not show the extent to which approved funding met program requirements. In addition, buyout costs for the two East Coast shipyards are still pending because the final amounts have not been negotiated. Thus, while the report addressed each matter and argued for direct funding, it did not present data and other supporting evidence for its overall conclusion that direct funding can best satisfy fleet maintenance priorities without sacrificing cost visibility, performance accountability, or quality of work.

The Navy’s March 2006 report did not show data that adequately addressed two key issues—cost visibility and performance metrics—which had been identified as unresolved in prior studies. First, the report did not present the Navy’s approach and methodology for achieving total cost visibility for specific work performed. Prior reports by our office and the DOD-IG identified weaknesses in total cost visibility as an unresolved issue, and contained recommendations to develop guidance and appropriate costing methodologies or techniques that improve total cost visibility. Reporting the full cost of ship maintenance operations is recommended by federal accounting standards and is a key metric for evaluating a consolidated facility’s productivity and performance. Although the Navy was attempting to gather cost data to show the full costs of operations at its shipyards, we found that the Navy has not developed policies and procedures to routinely and systematically accumulate these total cost data. Consequently, Office of the Secretary of Defense (OSD) and Navy officials do not yet have complete and reliable cost data needed for making fully informed decisions related to ship maintenance activities. Second, with respect to performance metrics, the Navy’s report did not provide data that demonstrated improved results, such as increased productivity, of consolidating ship maintenance facilities at Puget Sound and converting the shipyard to direct funding. Prior reports by our office and the DOD-IG identified a lack of performance metrics as an unresolved issue, and both reports contained recommendations that the Navy establish appropriate metrics. DOD concurred, but did not identify proposed actions or completion dates. Without performance metrics to measure progress toward meeting goals and objectives, the Navy lacks data needed for evaluating the changes it

has made and making fully informed decisions related to the management of consolidated ship maintenance activities.

The Navy's March 2006 report did not disclose shortcomings in its information systems at Puget Sound Naval Shipyard that have hindered its ability to efficiently and reliably meet its financial and business operations reporting requirements. The information systems at the consolidated facility were not designed to provide the types of cost and operational data being requested under direct funding. As a result, the systems have required extensive changes and manual administrative efforts by shipyard personnel to support the consolidated facility's financial and business operations reports being requested under direct funding. For example, considerable manual effort is required to assemble information for reports and data calls for the consolidated activity. Also, data reliability is a concern because of problems encountered when the shipyard and the intermediate maintenance facility personnel, cost, material, and industrial data systems and databases were linked together for the consolidation and conversion to direct funding. The Navy recognizes it needs improved information systems to support the consolidated facility at Puget Sound under direct funding, and the DOD-IG found improvements are crucial to avoiding costly fixes and workarounds. However, the Navy has not identified a solution—including requirements, corrective actions, time frames, and resources—to address shortcomings in the information systems supporting Puget Sound. Furthermore, this issue is not unique to Puget Sound Naval Shipyard, but impacts all shipyards converting to direct funding. In the long term, the Navy plans to install an enterprisewide system as part of DOD's business systems modernization program. However, this new enterprisewide system will not be available for years under current Navy plans. Addressing the need for improvement in the information systems could contribute to the Navy's long-term plans to install an enterprisewide system.

This report recommends that the Navy, as it moves ahead to improve fleet support activities by consolidating regional maintenance activities and converting its remaining two shipyards to direct funding, take actions to improve management of these changes and achieve expected benefits. More specifically, the Navy should improve its ability to routinely and systematically provide for total cost visibility, develop performance metrics aimed at demonstrating expected benefits such as increased productivity, and develop specific plans for information systems designed to efficiently support financial and business operations at its shipyards. DOD provided written comments on a draft of this report. In commenting on a draft of this report, DOD concurred with our recommendations. On

the basis of our evaluation of DOD's comments, we have revised our recommendation regarding performance metrics to be more specific. We have also added a matter for congressional consideration to provide increased oversight of the Navy's plans for improving its information systems. DOD's comments are reprinted in appendix II.

Background

In 1999, we reported that the preliminary results of the Pearl Harbor pilot were mixed and recommended that DOD and the Navy address unresolved issues related to the financial management of the consolidation as the Navy proceeded with similar consolidations in other locations.⁵ In 2001, we updated this assessment and concluded that while the consolidation of shipyard and intermediate maintenance activities offered benefits for using resources more efficiently, financial management issues existed that needed to be resolved.⁶ We highlighted problems concerned with inadequate cost visibility and accountability, and with data used to show compliance with applicable statutes. In December 2005, CBO issued an interim report comparing working capital funding and direct funding for Naval shipyards.⁷ Its preliminary findings indicated that working capital funding and direct funding each has strengths and weaknesses as shipyard funding systems, but did not conclude whether one system was best. CBO's report noted concerns that direct funding makes shipyards' costs and operations less visible. Also in December 2005, the DOD-IG issued a report that raised concerns about the conversion of other shipyards to direct funding.⁸ The report's main findings were that Puget Sound did not routinely accumulate financial information as they had done when financed as a working capital fund activity, metrics and goals used to track results of the transition were unreliable and did not address the impacts of direct funding, and the information systems did not fully support operations. As a result, DOD-IG was unable to determine the effectiveness of the transition of Puget Sound to direct funding.

⁵ GAO, *Depot Maintenance: Status of the Navy's Pearl Harbor Pilot Project*, GAO/NSIAD-99-199 (Washington, D.C.: Sept. 10, 1999).

⁶ GAO, *Depot Maintenance: Key Financial Issues for Consolidations at Pearl Harbor and Elsewhere Are Still Unresolved*, GAO-01-19 (Washington, D.C.: Jan. 22, 2001).

⁷ CBO, *Comparing Working-Capital Funding and Mission Funding for Naval Shipyards: An Interim Report* (Dec. 1, 2005).

⁸ DOD-IG, *Financial Management: Puget Sound Naval Shipyard Mission-funded Prototype*, D-2006-037 (Dec. 9, 2005).

Navy Did Not Provide Data and Other Supporting Evidence for Its Overall Assessment

The Navy's March 2006 report to Congress included sections corresponding to each of the matters specified in Section 322(b)(2) of the National Defense Authorization Act for Fiscal Year 2006. However, although the report addressed the Navy's assessment of the conversion of Puget Sound to direct funding, it did not provide data and other supporting evidence for the Navy's overall assessment that direct funding was more advantageous than working capital funding and can best satisfy fleet maintenance priorities.

More specifically, the report did not provide evidence that direct funding had provided for a more agile workforce—the ability to more easily move workers among maintenance projects in response to fleet priorities—which was a key benefit the Navy claimed was achieved by converting to direct funding. It did not provide data to support the Navy's position that direct funding enabled the maintenance activities to quickly respond to emergent operational requirements by reprioritizing work, minimizing the financial impact of unplanned maintenance, and optimizing the use of all resources available in a region. While it said that some sharing of production personnel had occurred prior to consolidation, this required special actions and burdensome administrative processes, all causing delay in accomplishing needed work, but provided no data showing differences before and after the conversion. Regarding operational and financial flexibility, the Navy said that while the working capital fund allows for continued operations on a limited basis, it considered this limited flexibility minor compared to the overall benefits of direct funding, particularly its ability to move workers among projects as workload priorities change, increasing the agility of the workforce and minimizing the administrative burden. Again, no data were provided on increased workforce agility or reduced administrative burden. Moreover, it did not provide data to support the overall conclusion that direct funding can best satisfy fleet maintenance priorities without sacrificing cost visibility, performance accountability, or quality of work.

More broadly, the use of direct funding rather than working capital funding as a financing mechanism for shipyard maintenance reflects fundamental choices about how DOD goods and services are provided.⁹ Naval shipyards have operated under some type of revolving fund

⁹ For a broader discussion of performance budgeting within the federal government, see GAO, *Performance Budgeting: Efforts to Restructure Budgets to Better Align Resources with Performance*, GAO-05-117SP (Washington, D.C.: February 2005).

financing system, which includes working capital funds, for decades. Working capital funding requires shipyards to track and report their total costs in order to determine operating results (profits and losses) and future billing rates. In doing so, the working capital fund focuses attention on the total costs of providing a good or service. The fees that a working capital-funded shipyard charges for the services provided are based on total projected costs and projected workload for the year. Total costs include fixed costs and sunk costs that are independent of the amount of work performed as well as costs that vary according to workload. Consequently, the price that shipyards charge may be viewed by the customers as too high. If customers view shipyard rates as too high, they may defer maintenance, reduce the scope, or shift to a new maintenance provider, such as an intermediate maintenance facility that is direct funded or does not include fixed costs in its prices. Under direct funding, direct appropriations authorize DOD to incur obligations for designated purposes, such as ship maintenance or modifications. Direct-funded shipyards provide maintenance services to the fleets for free, but they are still reimbursed for modifications and conversions. Both capital expenditures and military construction at direct-funded shipyards are funded through separate direct appropriations. Thus, direct funding may reduce the availability of data on shipyards' total costs unless the data are specifically requested or developed.

The Navy's report also did not provide complete information on some specific matters. For example, the Navy's report did not provide complete information on the capital improvement program. The Navy report noted differences in funding of the shipyard's capital improvement program since the conversion to direct funding. Under working capital funding, funds function from the fees charged for the services they provide consistent with their statutory authority. Under direct funding, appropriations authorize DOD to incur obligations for designated purposes. However, more information would have helped in understanding whether, after the conversion to direct funding, the approved funding met total shipyard capital improvement program requirements as well as requirements for the shipyard's sustainment, restoration, and modernization program, which provides funds to keep the facilities in good working order, restores facilities, and makes alterations to meet higher standards or accommodate new functions or missions. As we pointed out in our 2001 report, Pearl Harbor was budgeted for less than 5 percent of the identified capital improvement program requirements for the consolidated facility over 3 fiscal years.

In addition, buyout costs for the two East Coast shipyards are still pending because the final amounts have not been negotiated. The Navy report stated that it had not fully resolved buyout costs for converting the two East Coast shipyards. These costs are to be negotiated by the Navy, OSD, and the Defense Finance and Accounting Service after the end of fiscal year 2006. Based on end-of-fiscal-year projections, buyout costs will total \$231.5 million for these shipyards. The Navy included \$140.1 million in the President's fiscal year 2007 budget for projected working capital fund buyout costs for the two East Coast shipyards, leaving a projected balance of \$91.4 million. The report also did not note that Puget Sound will incur additional buyout costs of more than \$53 million due to operating losses for working capital fund projects carried over during the transition to direct funding.

Navy Did Not Address Unresolved Issues Identified in Prior Studies

The Navy's March 2006 report did not show data that adequately addressed issues identified as unresolved in prior studies. Specifically, the Navy did not identify (1) methodologies for achieving total cost visibility and (2) performance metrics to measure improved results, such as increased productivity, achieved by the consolidation of maintenance facilities and the conversion to direct funding.

Navy Did Not Identify Methodologies for Total Cost Visibility

The Navy's report did not discuss the Navy's approach and methodology for achieving total cost visibility at the consolidated facility. Section 322(b)(2) called for the Navy to address, among other things, the effect of direct funding on (1) the cost visibility of specific work performed and (2) the total cost of consolidated ship maintenance operations on an ongoing basis. The Navy stated that the conversion to direct funding had been made without sacrificing cost visibility because the same information systems used to accumulate costs under the working capital fund have remained in place. The Navy report identified broad cost categories, provided total budget and expenditures figures for the consolidated facility for fiscal years 2004 and 2005, and compared the total percentage of actual to budgeted expenditures. However, the report did not discuss how the conversion to direct funding had changed the way the Navy has to accumulate cost data and achieve total cost visibility for specific work performed.

Prior reviews have raised issues about the Navy's ability to provide data showing total cost visibility. We reported in 2001 that the management and financial systems at Pearl Harbor did not have reliable data on an ongoing basis to determine the cost of delivering a direct labor hour of ship

maintenance work, a key metric for evaluating the consolidated facility's productivity and performance. Determining the total cost of delivering specific ship maintenance is important for other reasons as well. The Statement of Federal Financial Accounting Standard No. 4 states that reporting entities should accumulate and report the costs of their activities on a regular basis for management information purposes and that costs may be accumulated through cost accounting systems or "cost finding" techniques. The full cost of an output is the sums of (1) the cost of resources consumed that directly or indirectly contribute to the output and (2) the cost of identifiable supporting services provided by other entities. Also, we reported that the Navy had not implemented a method to routinely and systematically accumulate and account for the full cost of operations, such as tracking indirect overhead costs as closely under direct funding. We recommended in our 2001 report that the Navy implement a method to account for the total cost of consolidated ship maintenance operations on an ongoing basis. DOD concurred with our recommendation, and our current work supports the validity of this recommendation.

The DOD-IG reported in December 2005 that cost information was not collected to determine the total cost (including all associated overhead costs) required to establish an overhead rate to charge non-DOD customers for maintenance performed. The DOD-IG found that, according to Puget Sound officials, under direct funding the consolidated activity no longer routinely accumulated costs necessary to compute an overhead rate to charge its customers. They did not track these costs because Commander, Pacific Fleet, is responsible for funding all overhead costs under mission funding. The DOD-IG's report recommended that the Navy develop an instruction addressing the processes and business practices to be used at direct-funded shipyards, issue guidance to address financial reporting and cost information accumulation requirements, and update existing reporting and cost guidance to reflect changes since consolidating and transitioning to direct funding. The Navy did not concur with these recommendations, but indicated they supported improving top-down guidance, operating procedures, and consistency of financial information, and ensuring compliance with fiscal policy.

Our current review confirmed the Navy has not yet developed policies, procedures, and information systems to routinely and systematically accumulate and account for the total cost of specific work performed or total costs of consolidated shipyard operations on an ongoing basis. Under direct funding, the shipyard does not track and provide cost accounting for all costs associated with specific projects. While the shipyard can

generate data on direct labor and material costs associated with individual projects, other Navy commands must provide the remaining cost data needed to determine the total costs for the consolidated facility.

The Navy's report did not discuss the added complexities in systematically producing the total cost data for auditable financial statements under direct funding. Developing a methodology to collect total cost data under direct funding would help produce auditable financial statements, and it would better inform congressional defense committees' authorization and appropriation decisions. Navy officials said they still needed to develop procedures for efficiently generating the data in new budget exhibits being developed for Navy direct-funded shipyards. They also said developing a methodology on the total cost of shipyard work would help them abide by the definition and comply with annual reporting required, respectively, by Sections 2460 and 2466 of Title 10, United States Code. These sections define depot maintenance and limit the percentage allocation of funds that may be expended for contractor performance of depot-level maintenance and repair work. More specifically, the military departments and defense agencies cannot expend more than 50 percent of annual depot maintenance funding to contract for depot-level maintenance and repair by nonfederal contractor personnel. The Secretary of Defense is required to submit a report annually identifying, for each of the armed forces and each defense agency, the percentage of workload funding expended between the public and private sectors for the preceding fiscal year, and projected expenditures for the current and ensuing fiscal year. The Navy has developed data needed to respond to these reporting requirements for Puget Sound Naval Shipyard each year, but its methods have not provided the total cost visibility needed. Naval Audit Service officials said they are reviewing the Navy's processes for complying with this annual reporting requirement. Consequently, OSD and Navy officials do not yet have complete and reliable cost and related data needed for making fully informed decisions related to ship maintenance activities.

Navy Did Not Identify Performance Metrics Demonstrating Improved Results Achieved by Consolidating Maintenance Facilities and Converting to Direct Funding

The Navy's report did not provide performance metrics demonstrating improved results associated with consolidating ship maintenance facilities at Puget Sound and converting the shipyard to direct funding. For example, the Navy's report asserts that benefits of direct funding are increased agility of the workforce and minimized administrative burden associated with reassignment of workers to high-priority projects. However, the report provided no performance metric data demonstrating these or other benefits, such as increased productivity and quality of work, that might be expected from the consolidation of maintenance facilities

and adoption of a single financing structure. Outcome-oriented performance metrics provide a means for agencies to assess their progress toward meeting goals and objectives under an analytical framework.

Prior reviews have raised concerns about the Navy's lack of performance metrics regarding the consolidation of ship maintenance facilities. Our 2001 review at Pearl Harbor found that although the consolidation had made more effective use of workers and facilities in Hawaii, the performance metrics tested by the Navy had not provided a conclusive assessment of the consolidated facility's accomplishments in achieving greater efficiencies and lowering costs. We recommended that the Navy develop additional metrics to measure the efficiency and effectiveness of consolidated ship maintenance activities, drawing on lessons learned from the consolidation at Pearl Harbor. DOD concurred with our recommendation.

The DOD-IG report also found that the Navy lacked adequate performance metrics for the consolidated Puget Sound facility. The DOD-IG found that the Navy did not have metrics and goals for Puget Sound that would help show the impact of direct funding on operations at the consolidated shipyard. The report recommended that OSD and the Navy jointly establish metrics and goals and baseline these metrics to evaluate Puget Sound's transition to direct funding. It also recommended that the Navy establish policies and procedures for direct-funded metrics and goals to ensure information is consistently collected and reported and supporting documentation is maintained to fully support reported results. The Navy concurred, but did not identify the proposed actions and completion dates. The Navy further stated that the primary advantage of converting the shipyards to direct funding is that it allows fleet commanders as opposed to fleet support activities to control priorities and, further, that this benefit does not fit neatly into a metric that can be compared in "before and after" snapshots. Without performance metrics to measure progress toward meeting goals and objectives, the Navy lacks data needed for evaluating the changes it has made and making fully informed decisions related to the management of consolidated ship maintenance activities. The CBO reported that having appropriately structured annual summary reports for each shipyard could enable Congress to monitor shipyards' finances and performance regardless of the type of funding used to pay for their operations. While the CBO is currently evaluating proposed metrics that are intended to demonstrate naval shipyards' performance, the metrics being proposed do not address assessing the progress being made to consolidate facilities and convert to direct funding.

We determined that after the initial consolidation of facilities at Puget Sound, Navy officials identified a need for metrics that would be used to provide an ongoing assessment of the consolidation process of the shipyard and intermediate maintenance facility. More specifically, the region placed high importance on the establishment of metrics designed to fully measure the progress and assess the effects of consolidation, including quality, cost, schedule, and workforce development. These metrics were to provide a factual basis for management actions as the consolidation continued into maturity. However, efforts to collect these metric data were halted in July 2005, and although the shipyard had a variety of metrics at the time of our review, it did not have metrics in place related specifically to the consolidation or direct funding. As a result, it was not quantifying or measuring the level of productivity achieved since the consolidation and conversion to direct funding.

Navy Report Did Not Identify Problems with Information Systems Not Designed for Direct Funding

The Navy's report did not disclose shortcomings in its information systems at Puget Sound Naval Shipyard that have hindered its ability to efficiently and reliably meet its financial and business operations reporting requirements. The consolidated shipyard's information systems were not designed for reporting direct-funding operations. The Navy's report said the shipyard utilized its existing information system, enabling it to maintain the same cost data as a shipyard financed by the working capital fund. It stated only that Puget Sound experienced some data collection and reporting anomalies that were corrected by the end of fiscal year 2004.

The DOD-IG reported in December 2005 that the information systems available at Puget Sound Naval Shipyard did not fully support the consolidated activity's operations. It found that after the consolidation and conversion to direct funding, Puget Sound decided to maintain two information systems and their subsystems to manage operations and activities. For example, multiple subsystems and databases from the Puget Sound shipyard information system and the Trident Refit Facility were maintained and manual interfaces established to reflect the consolidated facility's projects. Those systems and databases required considerable manual effort to assemble information and reports for the consolidated activity. For projects that spanned multiple fiscal years, Puget Sound personnel had to extract data from multiple databases and add them together to determine the total cost of a specific project. Furthermore, the shipyard had to implement new procedures to enable the appropriated funds to be deobligated at the end of the year, and new obligations set up for the next year. The report recommended that the Navy identify information system requirements for supporting the operations of all

consolidated activities affected by the shipyard transition to direct funding in order to avoid costly manual workarounds and manage communications between systems. The DOD-IG considered the need to properly plan and identify information system requirements crucial to avoiding costly fixes and workarounds, and requested the Navy provide a plan of action with milestones. The Navy concurred with the recommendation; however, it did not identify any proposed actions or completion dates.

Our review verified that the information systems at Puget Sound Naval Shipyard consolidated facility were not designed to provide the types of cost and operational data being requested under direct funding. As a result, the systems have required extensive changes and manual administrative efforts by shipyard personnel to support the consolidated facility's financial and business operations reports being requested under direct funding. As a test, we requested data on the total cost of specific work performed on a multiyear direct-funded ship maintenance project. The data the shipyard could provide were limited to direct costs, mainly labor and material. According to shipyard officials, determining total costs for a ship maintenance project was simpler under the working capital fund because the projects were funded on a multiyear basis, and the system was set up to track costs that spanned more than a single fiscal year. However, to identify the total amount spent over several years on a ship maintenance project under direct funding, they have to identify the total amount spent each year, and manually enter it into another spreadsheet to add the data together.

Also, data reliability is of concern. For example, shipyard and intermediate maintenance facility personnel we talked with said numerous problems were encountered and manually addressed when the shipyard and the intermediate maintenance facility personnel, cost, material, and industrial data systems and databases were linked together for the consolidation and conversion to direct funding. For example, senior staff spent considerable time checking output data for errors with the shipyard, intermediate maintenance facility, and Defense Finance and Accounting Service information systems. When causes of problems were identified, systems files were set up to catch problems so the data could be corrected. Although the Navy was able to collect cost and performance data to populate its proposed shipyard budget exhibits in the March 2006 report, Navy officials said its processes need to become more efficient and visible, and show how the data are collected.

Navy officials in headquarters and Puget Sound recognized the need for improved information systems to support the Puget Sound Naval Shipyard

consolidated facility and other East Coast shipyards converting from working capital funding to direct funding. However, the Navy has not identified a solution—including requirements, corrective actions, time frames, and resources—to address shortcomings in the information systems supporting Puget Sound. Furthermore, this issue is not unique to Puget Sound Naval Shipyard, but impacts all shipyards converting to direct funding. Addressing the need for improvement in the information systems could also contribute to the Navy’s long-term plan to install an enterprisewide system as part of DOD’s business systems modernization program. However, they said this new enterprisewide system will not be available for years under current Navy plans, and in the meantime they are limited each year to a relatively small amount of funds that can be requested for data system improvements. Consequently, the Navy is requesting additional funds annually for critical short-term information system changes needed as Norfolk and Portsmouth Naval Shipyards convert to direct funding, in lieu of redesigning efficient and reliable information systems that meet the needs of these shipyards.

Conclusions

The Navy has expected to achieve benefits from consolidating maintenance activities at Pearl Harbor and Puget Sound and converting the shipyards to direct funding. These changes are intended to make these fleet support activities more efficient and effective. The Navy has asserted that using a single financing system (direct funding) at the consolidated facilities enables it to move workers more freely among projects in response to fleet priorities. DOD intends to convert the remaining two East Coast shipyards to direct funding in fiscal year 2007, expecting even greater benefits. However, the Navy has not developed a methodology for determining total cost visibility or performance metrics for measuring outcome-oriented results associated with consolidating the facilities and converting the shipyards to direct funding. In addition, the Navy does not have information systems in place that systematically produce reliable information needed for both total cost visibility and performance metrics. Thus, the Navy will not have the data needed to evaluate the changes it has made at its consolidated facilities. Furthermore, although prior reviews have reported on these issues, they continue to persist because specific actions and time frames have not been established and monitored. As the Navy moves ahead to improve fleet support activities by consolidating regional maintenance activities and converting its remaining two shipyards to direct funding, opportunities exist to improve the management of these changes and achieve expected benefits.

Recommendations for Executive Action

To improve the Navy's management of consolidated maintenance facilities and the conversion of shipyards to direct funding, we recommend that the Secretary of Defense direct the Secretary of the Navy to take the following three actions:

- Implement a method to routinely and systematically provide for total cost visibility of ship maintenance work performed.
- Develop metrics to ensure that the planned changes to consolidate the management, operations, and funding of facilities performing ship maintenance are being implemented; that specific productivity improvements and other benefits are being achieved; and that areas where performance is lacking or problems exist are identified.
- Develop specific plans for information systems designed to efficiently support the financial and business operations at its shipyards, including identification of requirements, corrective actions, time frames, and resources needed.

Matter for Congressional Consideration

The Congress should require the Navy to periodically report on its specific improvement plans and progress, as well as any impediments requiring congressional action, to ensure that shortcomings in the information systems supporting the Navy's consolidation of regional maintenance facilities and conversion to direct funding are addressed in a timely manner.

Agency Comments and Our Evaluation

In comments on a draft of this report, DOD concurred with our recommendations and cited actions it would take to implement them. Concerning our recommendation that DOD implement a method to routinely and systematically provide for total cost visibility of ship maintenance work performed, DOD reported that the Navy will implement revised policy and initiatives to systematically provide the desired total cost visibility of ship maintenance work performed at the four Naval shipyards, and that proposed guidance is being coordinated for implementation by September 30, 2006, pending final congressional approval of the fiscal year 2007 President's Budget.

On the recommendation to develop metrics, DOD said it will continue to refine the Naval shipyard exhibit to ensure Committee concerns related to shipyard performance are fully addressed and that alternative metrics, including a metric addressing increased productivity, will be developed. While DOD's response is encouraging, it is not clear whether DOD intends to develop specific metrics that measure and assess the effects of

consolidation and funding changes, as discussed in our report. Such metrics would identify the scope of the consolidation and workforce affected, and ensure that the planned changes to consolidate the management, operations, and funding of facilities performing ship maintenance are being implemented; specific productivity improvements and other benefits are being achieved; and areas where performance is lacking or problems exist are identified. As a result, we have revised this recommendation to be more specific.

Regarding our recommendation on information systems designed to efficiently support financial and business operations at its shipyards, DOD commented that the existing information technology workarounds at Puget Sound Naval Shipyard reflected a temporary situation associated with a pilot program. DOD said the Navy will resolve the longer term information technology needs to eliminate manual workarounds and provide the necessary tools to support the Regional Maintenance Plan. As noted in the report, Navy officials have previously told us that they are limited each year to a relatively small amount of funds that can be requested for data system improvements. Consequently, they have requested funding only for critical short-term information system changes needed as shipyards convert to direct funding, in lieu of redesigning efficient and reliable information systems that meet the needs of these shipyards. Because of the funding issues involved and the critical need for information system improvements supporting the Navy's direct-funded shipyards, we believe that additional congressional oversight could assist the Navy in its efforts to implement planned changes in a timely manner. Therefore, we have added a matter for congressional consideration.

Scope and Methodology

To assess the Navy's March 2006 report to Congress, we reviewed the Navy's reporting requirements established in Section 322(b)(2) of the National Defense Authorization Act for Fiscal Year 2006. We evaluated the information and data presented in the Navy's report to support its assessment of the matters specified in Section 322(b)(2) as well as the report's overall conclusions. We discussed the Navy's report with officials responsible for its development and visited the consolidated facility at Puget Sound to obtain information on the implementation of direct funding. We also obtained and analyzed additional supporting documentation from Navy officials regarding the matters covered in the report. We discussed this work with officials in the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics; the OSD Comptroller; the Assistant Secretary of the Navy for Financial Management and Comptroller; the Chief of Naval Operations; the Naval

Sea Systems Command; and the Puget Sound Naval Shipyard and Trident Refit Facility in the state of Washington. We reviewed prior GAO, CBO, DOD-IG, and Naval Audit Service reports on the conversion of Pearl Harbor and Puget Sound naval shipyards to direct funding. We discussed the issues of cost visibility and performance metrics with those who conducted these reviews and with Navy headquarters and Puget Sound officials. We reviewed performance metrics the Puget Sound Naval Shipyard uses in managing the shipyard and intermediate maintenance facilities. We also obtained an understanding of issues related to the information systems supporting Puget Sound. We met with officials responsible for data system management and discussed challenges and changes that have been needed to support Puget Sound's operations and how these issues may affect other shipyards converting to direct funding. We asked for data on the total cost of operations for a full fiscal year and the cost of work for specific ship maintenance projects. We also discussed information system and performance metrics issues related to consolidation and direct funding with officials at the Trident Refit Facility. As a part of our assessment of cost visibility, performance metrics, and information systems, we discussed with Navy officials quality and reliability of the financial and operations data generated for the consolidated facility. We conducted our work between March and May 2006 in accordance with generally accepted government auditing standards.

We are sending copies of this report to the appropriate congressional committees, the Secretary of Defense, the Secretary of the Navy, and the Director, Office of Management and Budget. We will also make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>. If you or your staffs have any questions on the matters discussed in this report, please contact me at (202) 512-5140. 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 III.

A handwritten signature in black ink, appearing to read 'W. Solis', with a long horizontal flourish extending to the right.

William M. Solis, Director
Defense Capabilities and Management

List of Congressional Committees

The Honorable John Warner
Chairman
The Honorable Carl Levin
Ranking Minority Member
Committee on Armed Services
United States Senate

The Honorable Ted Stevens
Chairman
The Honorable Daniel K. Inouye
Ranking Minority Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Duncan L. Hunter
Chairman
The Honorable Ike Skelton
Ranking Minority Member
Committee on Armed Services
House of Representatives

The Honorable C.W. Bill Young
Chairman
The Honorable John P. Murtha
Ranking Minority Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives

Appendix I: Matters in Section 322(b)(2) of the National Defense Authorization Act for Fiscal Year 2006

The National Defense Authorization Act for Fiscal Year 2006 required the Secretary of the Navy to submit a report to the congressional defense committees by March 1, 2006, containing the Secretary's assessment on the effects of converting Puget Sound from the working capital fund to direct funding on 11 matters. The matters are listed below.

Matters Identified in Section 322(b)(2)

- A. The cost visibility of specific work performed.
- B. The total cost of consolidated ship maintenance operations on an ongoing basis.
- C. The ability to distinguish between depot and intermediate work of consolidated ship maintenance activities.
- D. The costs associated with buyout expenses for the transfer of the shipyards of the Navy on the east coast of the United States from funding through the working capital fund of the Navy to funding on a direct basis.
- E. The flexibility of the shipyard to continue routine ship maintenance operations during a potential funding gap at the beginning of a fiscal year or when expected maintenance costs exceed annual appropriations.
- F. Operational and financial flexibility and responsiveness of funding on a direct basis compared to funding through the working capital fund of the Navy.
- G. Long-term funding for the capital improvement programs of the shipyard.
- H. Compliance with Section 2460 of Title 10, United States Code, which defines the work that is considered to be depot-level maintenance and repair versus work that is considered to be a major modification of a weapons system.
- I. Compliance with Section 2466 of Title 10, United States Code, which limits the amount of depot-level maintenance and repair workload of the Department of Navy that is performed by nonfederal government personnel in any fiscal year to not more than 50 percent of the total depot workload reported to the department in that fiscal year.
- J. Compliance with Sections 1115 and 1116 of Title 31, United States Code, which require agencies to set annual performance goals, measure

performance toward the achievement of those goals, and publicly report on progress.

K. Compliance with Chapter 35 of Title 31, United States Code, which requires audited financial statements to include the ability to properly charge and account for reimbursable workload.

Appendix II: Comments from the Department of Defense



DEPUTY UNDER SECRETARY OF DEFENSE FOR
LOGISTICS AND MATERIEL READINESS
3500 DEFENSE PENTAGON
WASHINGTON, DC 20301-3500

AUG 17 2006

Mr. William M. Solis
Director, Defense Capabilities and Management
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Mr. Solis:

This is the Department of Defense (DoD) response to the GAO Draft Report, "DEPOT MAINTENANCE: Improvements Needed to Achieve Benefits from Consolidations and Funding Changes at Naval Shipyards," dated July 19, 2006 (GAO Code 350817/GAO-06-989).

The Department concurs with each recommendation. An explanation of the DoD position is enclosed. The Department appreciates the opportunity to comment on the draft report.

Sincerely,


Jack Bell

Enclosure:
As stated



**GAO DRAFT REPORT – DATED JULY 19, 2006
GAO CODE 350817/GAO-06-989**

**“DEPOT MAINTENANCE: Improvements Needed to Achieve
Benefits from Consolidations and Funding Changes at Naval Shipyards”**

**DEPARTMENT OF DEFENSE COMMENTS
TO THE RECOMMENDATION**

RECOMMENDATION 1: The GAO recommended that the Secretary of Defense direct the Secretary of the Navy to implement a method to routinely and systematically provide for total cost visibility of ship maintenance work performed. (p. 12/GAO Draft Report)

Now on p. 16.

DOD RESPONSE: Concur. Pending final congressional approval of the FY 2007 President’s Budget, the Department of the Navy will implement revised policy and apply the necessary business process re-engineering initiatives (including information technology solutions) to systematically provide the desired total cost visibility of ship maintenance work performed at the four Naval shipyards. Proposed guidance is currently being coordinated with the senior staff at Fleet Forces Command, Commander, U. S. Pacific Fleet, Naval Sea Systems Command and the Chief of Naval Operations for implementation by 30 September 2006.

RECOMMENDATION 2: The GAO recommended that the Secretary of Defense direct the Secretary of the Navy to develop metrics to demonstrate improved results, such as increased productivity and other benefits expected from changes implemented as its shipyards. (p. 12-13/GAO Draft Report)

Now on p. 16.

DOD RESPONSE: Concur. The Department will continue to refine the Naval shipyard exhibit to ensure Committee concerns related to shipyard performance are fully addressed. Alternative metrics, including a metric addressing increased productivity will be developed.

RECOMMENDATION 3: The GAO recommended that the Secretary of Defense direct the Secretary of the Navy to develop specific plans for information systems designed to efficiently support the financial and business operations at its shipyards, including identification of requirements, corrective actions, time frames, and resources needed. (p. 12-13/GAO Draft Report)

Now on p. 16.

DOD RESPONSE: Concur. The existing information technology workarounds at Puget Sound Naval Shipyard reflect a temporary situation associated with operating in as a “pilot program.” This was further complicated by unique workload mix involving the TRIDENT Intermediate Refit Facility. The Department of the Navy will resolve the longer term information technology needs to eliminate manual workarounds and provide the “necessary tools” to support the Regional Maintenance Plan.

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

William Solis (202) 512-5140 or solisw@gao.gov

Acknowledgments

In addition to the contact named above, Thomas Gosling, Assistant Director; Grace Coleman; Lee Cooper; and Amy Sheller were major contributors to this report.

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