United States General Accounting Office

GAO

Report to the Chairman, Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate

January 2001

DEPOT MAINTENANCE

Key Financial Issues for Consolidations at Pearl Harbor and Elsewhere Are Still Unresolved





Contents

Letter		5
Executive Summary		8
Chapter 1 Introduction	Navy Ship Maintenance Process Pearl Harbor Pilot Is a Part of the Navy's Regional Maintenance Program Development of the Pilot Test Plan and Performance Metrics Congressional Requirements for the Pearl Harbor Pilot Our Prior Concerns About the Pearl Harbor Pilot	22 22 24 26 27
Chapter 2 Navy Does Not Provide Adequate Cost Visibility and Accountability of Consolidated Ship Maintenance Activities at Pearl Harbor	Cost Visibility and Accountability Varied Prior to the Consolidation Management and Financial Systems Do Not Account for All Ship Maintenance Costs at Pearl Harbor Management and Financial Systems Do Not Distinguish Between Depot and Intermediate Work Inadequate Cost Data Used to Show Compliance With Applicable Statutes	30 30 31 34 35
Chapter 3 Issues Related to the Financial Structure for Consolidations of Ship Maintenance Activities at Pearl Harbor and Elsewhere Are Still Not Resolved	Buyout Costs for Transferring to Direct Appropriations Not Yet Agreed Upon Less Flexibility to Continue Maintenance Operations During Potential Funding Gaps and Shortfalls Is a Concern Uncertainties in the Capital Improvement Program	37 37 38 41

Contents

Chapter 4 Consolidation Has Provided Some Important Benefits, Although Overall Results of the Test Metrics Are	Benefits Have Been Achieved Data for Two of the Nine Test Metrics Indicate Improvements Results for the Seven Other Metrics Are Inconclusive Some Planned Benefits Have Yet to Be Achieved	42 42 43 45 50
Inconclusive		
Chapter 5 Conclusions and Recommendations for Executive Action, Agency Comments, and Matters for Congressional Consideration	Conclusions Recommendations for Executive Action DOD Comments and Our Evaluation Matters for Congressional Consideration	52 52 53 54 55
Appendixes	Appendix I: Objectives, Scope, and Methodology Appendix II: Comments From the Department of Defense Appendix III: GAO Contacts and Staff Acknowledgments	56 61 63
Related GAO Products		64
Tables	Table 1: Results of the Pearl Harbor Pilot Test Metrics (as of July 2000) Table 2: The Navy's Nine Test Metrics for Evaluating the Pearl Harbor Consolidation's Impact on Productivity,	17
	Performance, and Costs	26

	Contents	
	Table 3: Source of Funding for the Consolidated Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility	
	in Fiscal Year 1999	40
Figure	Figure 1: Navy's Ship Maintenance Activities (as of Sept. 2000)	23

Abbreviations

DOD Department	of Defense
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OSD Office of the Secretary of Defense





United States General Accounting Office Washington, D.C. 20548

January 22, 2001

The Honorable James M. Inhofe Chairman Subcommittee on Readiness and Management Support Committee on Armed Services United States Senate

Dear Mr. Chairman:

In 1998, the Navy consolidated the Pearl Harbor Naval Shipyard and the Naval Intermediate Maintenance Facility in Hawaii. Because of concerns raised about certain aspects of the consolidation, the Navy implemented a test project, commonly called the Pearl Harbor pilot, to determine if integrating the management, operations, and funding of the shipyard and the intermediate maintenance facility can result in greater efficiency and lower overall ship maintenance costs. In September 1999, we reported that the preliminary results of the ongoing Pearl Harbor pilot were mixed and recommended that the Departments of Defense and the Navy address unresolved issues related to the financial management of the consolidation as the Navy proceeds with similar consolidations in other locations. As agreed with your office, we updated our prior assessment to determine whether (1) the Navy has provided adequate cost visibility and accountability over consolidated ship maintenance activities at Pearl Harbor, (2) the Departments of Defense and the Navy have resolved other issues related to the financial structure for consolidations at Pearl Harbor and elsewhere, and (3) the consolidation has generated greater efficiency and lower costs for ship maintenance at Pearl Harbor.

This report includes recommendations to the Secretary of Defense to address key factors affecting the consolidation of ship maintenance activities. In addition, we have added matters for congressional consideration to have the Navy to report its strategy and time frame for providing total cost visibility on an ongoing basis and identifying depot and intermediate work of consolidated ship maintenance activities, and to have the Office of the Secretary of Defense and the Navy to report their strategy and time frame for addressing unresolved issues related to the financial management for consolidations at Pearl Harbor and elsewhere.

We are sending copies of this report to the Chairmen and Ranking Minority Members of the Senate Committee on Armed Services; the Subcommittee on Defense, Senate Committee on Appropriations;

 $[\]overline{\ }$ Depot Maintenance: Status of the Navy's Pearl Harbor Pilot Project (GAO/NSIAD-99-199, Sept. 10, 1999).

the House Committee on Armed Services; and the Subcommittee on National Security, House Committee on Appropriations. We are also sending copies of this report to the Secretaries of Defense and the Navy, the Under Secretary of Defense (Comptroller/Chief Financial Officer), and the Director of the Office of Management and Budget. Copies will also be made available to others upon request.

GAO contacts and key contributors to this report are listed in appendix III.

Sincerely yours,

Barry W. Holman, Director

Defense Capabilities and Management

Bay W. Holm



Purpose

In recent years, the Navy has implemented many changes aimed at making its fleet support activities more efficient and effective. In 1998, as part of these changes, the Navy consolidated the management, operations, and funding of the Pearl Harbor Naval Shipyard and the Naval Intermediate Maintenance Facility in Hawaii. Because of concerns raised about certain aspects of the consolidation, the Navy implemented a test project, referred to as the Pearl Harbor pilot, to evaluate the consolidation. In September 1999, GAO concluded that, while the consolidation of shipyard and intermediate maintenance activities offered clear benefits, the Pearl Harbor pilot provided only a general indication that future consolidations would result in efficiencies largely because of the unique aspects of Pearl Harbor ship maintenance activities and unresolved financial management issues. GAO recommended that the Departments of Defense and the Navy resolve issues related to the appropriate mechanism to finance and manage these types of activities.² As requested by the Chairman, Subcommittee on Readiness and Management Support, Senate Committee on Armed Services, GAO updated its prior assessment to determine whether (1) the Navy has provided adequate cost visibility and accountability over consolidated ship maintenance activities at Pearl Harbor, (2) the Departments of Defense and the Navy have resolved other issues related to the financial structure for consolidations at Pearl Harbor and elsewhere, and (3) the consolidation has generated greater efficiency and lower costs for ship maintenance at Pearl Harbor.

¹The Navy maintains its surface ships and submarines at three levels: organizational, intermediate, and depot. A ship's crew does organizational-level maintenance. Maintenance beyond the capability or capacity of a ship's crew is done by Navy intermediate maintenance activities and consists of short but time-critical projects. Depot-level maintenance, traditionally done in shipyards, requires skills or facilities beyond the capability or capacity of crews and intermediate activities. Due to the nature of their work, intermediate maintenance activities and shipyards have different capabilities, processes, and command and financial structures.

²Depot Maintenance: Status of the Navy's Pearl Harbor Pilot Project (GAO/NSIAD-99-199, Sept. 10, 1999).

Background

In March 1994, the Chief of Naval Operations announced a regional maintenance program to streamline the Navy ship repair and maintenance processes, reduce infrastructure and costs, and maximize outputs. The program consisted of three phases: (1) consolidating intermediate ship maintenance activities, (2) integrating intermediate and depot activities with management by the fleet commanders, and (3) conducting fleet maintenance using a single process. The first phase is near completion. For the second phase, the Navy consolidated the shipyard and intermediate maintenance facility at Pearl Harbor and may consolidate the operations of the Puget Sound Naval Shipyard, Washington, and the Intermediate Maintenance Facility Northwest, Washington. The third phase is scheduled to be completed in fiscal year 2001.

When the Navy consolidated the operations of the Pearl Harbor Naval Shipyard and the Naval Intermediate Maintenance Facility on April 30, 1998, the Pacific Fleet assumed ownership and overall management and financial responsibility for the consolidated facility, while the Naval Sea Systems Command continued to be the technical and operating authority. Based on concerns raised about certain aspects of the consolidation, the Navy implemented the Pearl Harbor pilot to determine if consolidated ship maintenance activities can result in greater efficiency and lower overall ship maintenance costs and selected nine test metrics for evaluating the productivity and performance of the consolidation. Each metric was designed to assess important aspects of ship maintenance, such as costs, productivity, and customer satisfaction.

 $^{^{3}}$ In phase three, the Navy intends that fleet maintenance will be integrated and supported by common business practices, maintenance procedures, and data for the Pacific and Atlantic Fleets.

⁴ Before the consolidation, the Naval Sea Systems Command owned and managed the shipyard and financed it through the Navy Working Capital Fund, and the Pacific Fleet owned and managed the intermediate maintenance facility and it was funded through direct appropriations.

The Navy tentatively set up a single financial structure for the consolidated facility using direct appropriations⁵ because officials of the Pacific Fleet believed the new approach was more appropriate and flexible and could better achieve pilot goals. GAO noted in its 1999 report that officials of the Office of the Secretary of Defense and the Navy had different views about the impact that the switch from working capital fund financing to direct appropriations would have on the financial management of consolidated operations at Pearl Harbor and on other Navy activities remaining in the working capital fund. For example, some Pacific Fleet and Pearl Harbor officials believed the working capital fund. 6 which the former shipvard used to finance its operations, included fees and charges that inflated maintenance costs. These charges include the depreciation of capital assets and selected support costs, which are not usually included as an expense by activities funded with direct appropriations, but are included in working capital fund activities to better reflect the full costs of operations. On the other hand, senior Office of the Secretary of Defense and other Navy officials have been concerned about the potential impact of using direct appropriations to finance the consolidation on (1) the Navy's ability to provide adequate cost visibility and accountability of the facility's ship maintenance activities, (2) the financial viability of naval shipyards and activities remaining in the working capital fund, (3) the facility's flexibility to continue ship maintenance operations if potential funding gaps occur at the beginning of fiscal years⁷ or when expected maintenance costs exceed annual appropriations, and (4) the Navy's ability to obtain adequate funding for the facility's capital improvement program. If the Navy decides to request direct appropriations permanently at Pearl Harbor, it may have to reimburse the working capital fund for costs to transfer the former Pearl Harbor shipyard to direct appropriations.

GAO concluded that, while the consolidation of shipyard and intermediate maintenance activities offered clear benefits for using resources more efficiently, financial management issues existed that needed to be resolved for future operations at Pearl Harbor and in considering other

⁵ A direct appropriation, sometimes referred to as mission funding by Departments of Defense and Navy officials, is the statutory authority provided to an agency to incur obligations and make payments from the Treasury for specified purposes.

⁶ Using working capital funds, organizations sell goods and services to customers based on rates designed to recoup the full cost of operations.

 $^{^{7}}$ A funding gap would occur if neither appropriations nor continuing resolutions were enacted before the start of a fiscal year.

consolidations. The Office of the Secretary of Defense concurred with the intent of GAO's recommendations to resolve financial management issues related to the consolidation at Pearl Harbor and indicated that the Departments of Defense and the Navy would correct them. This report discusses the extent to which the Departments have addressed these issues.

Results in Brief

The Navy still has not provided adequate cost visibility and accountability over ship maintenance activities at Pearl Harbor following the consolidation because it has not implemented a method to routinely and systematically accumulate and account for the full cost of operations or distinguish between depot and intermediate work performed by consolidated ship maintenance facilities. As a result, the management and financial systems at Pearl Harbor do not readily identify and report the full cost of ship maintenance operations, as required by federal accounting standards. 8 Consequently, Office of the Secretary of Defense and Navy officials have not had complete, reliable data needed for making fully informed decisions related to the management of ship maintenance activities and for establishing goals and measuring performance. For example, officials do not have reliable data on an ongoing basis to determine the total cost of delivering a direct labor hour of ship maintenance work—a key metric for evaluating the consolidated facility's productivity and performance. In addition, the facility's systems do not distinguish between depot and intermediate work, even though 10 U.S.C. 2466 requires the Defense Department to report on the allocation of depotlevel workloads between public and private sectors. Additionally, Defense and Navy comptroller officials question the reliability of the consolidated facility's data that are used to show compliance with the Chief Financial Officers Act (P.L. 101-576)⁹ and the Government Performance and Results Act (P.L. 103-62).10

⁸ Statement of Federal Financial Accounting Standards No. 4.

⁹ The Chief Financial Officers Act requires agencies to establish a leadership structure, provide for long-range planning, produce audited financial statements, and strengthen accounting and reporting.

¹⁰ The Government Performance and Results Act requires agencies to set multiyear strategic goals and corresponding annual performance goals, measure performance toward the achievement of those goals, and publicly report on their progress.

The Departments of Defense and the Navy have also made little progress since GAO's 1999 report toward resolving their differences about key issues related to the financial structure for the consolidated facility at Pearl Harbor and elsewhere. Several outstanding issues must be resolved. First. officials of the Office of the Secretary of Defense and the Navy differ over the amount the Navy should compensate the working capital fund when a shipyard opts out of the fund. Because the Department of Defense regulations provide only general guidance governing the transfers of working capital fund activities to direct appropriations, the Department's processes and procedures for such transfers are open to interpretation and some Navy officials are disputing the transfer costs determined by the Office of the Secretary of Defense. Second, officials differ about whether consolidated facilities funded with direct appropriations can, similar to naval shipyards operating under the working capital fund, continue routine ship maintenance operations if potential funding gaps occur at the beginning of fiscal years or expected maintenance costs exceed annual appropriations. Unlike operating under direct appropriations, operating under the working capital fund allows shipvard operators to incur costs without waiting for enactment of an appropriation and provides them freedom from reprogramming limitations and restrictions. Third, officials differ about whether funding under direct appropriations will be sufficient to maintain an adequate capital improvement program because the program would be competing with other Navy programs and priorities during the budgeting and appropriations processes.

Although more effective use of workers and facilities has occurred at the consolidated ship maintenance activity at Pearl Harbor, the metrics adopted by the Navy to assess the consolidation provide an inconclusive picture of its overall accomplishments in achieving greater efficiencies and lowering ship maintenance costs. The Pearl Harbor consolidation has increased overall flexibility of ship maintenance activities by establishing a single workforce from two work centers and reducing the maintenance infrastructure. Further, data for two of the nine metrics indicate improvements since the consolidation: the cost to provide a direct maintenance hour was less in fiscal year 1999 and the labor hours expended to deliver a direct maintenance hour were less in fiscal year 1999 and half of fiscal year 2000. However, because the consolidated facility did not routinely and systematically collect and report the full cost of

¹¹ Employees from various service shops, such as the welding and electrical shops, charge direct maintenance hours to their projects.

operations, the cost to provide a direct maintenance hour during fiscal year 2000 was not available on an ongoing basis. ¹² The results for the seven other metrics are inconclusive because factors unrelated to the consolidation influenced the data, the change in the overall performance was insignificant, or the data indicated both positive and negative results. However, lessons learned from the metrics used in evaluating the Pearl Harbor consolidation would be useful in framing evaluation plans for future consolidations at other naval locations.

GAO is recommending that (1) the Navy implement a method to provide total cost visibility and accountability on an ongoing basis and to distinguish between depot and intermediate work of consolidated ship maintenance activities; (2) the Office of the Secretary of Defense revise the department's regulations to clarify its processes, procedures, and costing methodology for transferring working capital fund activities to direct appropriations; (3) the Office of the Secretary of Defense and the Navy resolve their financial issues; and (4) the Navy develop metrics to measure the efficiency and effectiveness of consolidated ship maintenance activities. While the Department of Defense concurred with the recommendations, it did not indicate specific plans to resolve the financial issues first raised in GAO's 1999 report on the Pearl Harbor consolidation.¹³ Accordingly, GAO has added matters for congressional consideration to have the Navy to report its strategy and time frame for providing total cost visibility and identifying depot and intermediate work and to have the Office of the Secretary of Defense and the Navy to report their strategy and time frame for resolving their financial issues.

¹² The Chief of Naval Operations and the Naval Sea Systems Command requested the Naval Audit Service to compile and validate the data and determine the total cost to deliver a maintenance shop direct labor hour during the fiscal year 1997 baseline and fiscal years 1998 and 1999. According to Navy officials, there is no decision on whether the metric will be used to measure the performance of the pilot in fiscal year 2000.

¹³ Depot Maintenance (GAO/NSIAD-99-199, Sept. 10, 1999).

Principal Findings

Navy Has Not Provided Adequate Cost Visibility and Accountability of Consolidated Ship Maintenance Activities at Pearl Harbor The consolidated facility's management and financial systems do not account for the full cost of operations, including the depreciation of facilities and equipment, centrally managed financial and technical support services, selected base operating support, maintenance shops' overhead, military personnel, and borrowed workers. At the same time, the Statement of Federal Financial Accounting Standards No. 4 requires federal agencies to determine the full cost of operations through appropriate costing means and specifies that the full cost is the sum of the resources consumed and services provided by other entities that directly or indirectly contribute to the output. In addition, the systems do not distinguish between depot and intermediate ship maintenance work, as was done before the consolidation, because Pacific Fleet and Pearl Harbor officials assert that all work in the consolidated facility is considered the same. However, under 10 U.S.C. 2466, the Defense Department must limit the funds that may be used for contractor performance of depot maintenance workload and must report the percentage of funds expended for depot-level workloads by the public and private sectors. Department of Defense financial management regulations, which implement the reporting requirement, require defense activities to maintain a method to collect reportable data.

While this lack of adequate cost visibility and accountability may not directly affect those managers and workers performing ship maintenance and repairs at Pearl Harbor, it has generated significant concern among officials at higher organizational levels outside the consolidated facility. More specifically, since the consolidation, Office of the Secretary of Defense and Navy officials have not had complete, reliable data needed for making fully informed decisions related to the management of ship maintenance activities and for establishing goals and measuring performance. For example, during GAO's review, officials did not have reliable data to determine the total cost of delivering a direct labor hour of ship maintenance work on an ongoing basis. This is a key metric for evaluating the consolidated facility's productivity and performance. In addition, Defense Department and Navy comptroller officials question the reliability of ship maintenance data for Pearl Harbor that are used to show compliance with the Chief Financial Officers Act and the Government Performance and Results Act. For example, because Pacific Fleet and Pearl Harbor officials believed there was no longer a need to determine overhead

costs by maintenance shop, they developed rough estimates of these costs for the consolidated facility in fiscal year 1999 to show compliance with the statutes. Defense and Navy comptroller officials said that these estimates were imprecise at best.

Other Key Financial Issues Are Still Not Resolved

Office of the Secretary of Defense and Navy officials still differ about key issues related to the financial structure for consolidated ship maintenance activities at Pearl Harbor and for potential consolidations at other naval locations. First, Office of the Secretary of Defense and Navy officials differ over the amount the Navy should compensate the working capital fund when a naval shipyard transfers to direct appropriations. For example, Office of the Secretary of Defense officials believe the Navy should pay the working capital fund for an estimated \$101.4 million in undepreciated capital assets¹⁴ and \$9 million in assets under development¹⁵ to formally transfer the former Pearl Harbor shipyard to direct appropriations; some Navy officials believe that they should not request or allocate appropriations to pay them. 16 In addition, the Navy has requested a waiver for the former shipyard's accrued leave liability, estimated at \$14.3 million by the Office of the Secretary of Defense. Should the Navy decide to transfer all naval shipyards to direct appropriations, the Navy could be required to pay \$553 million based on Office of the Secretary of Defense and Navy data for these items: \$390 million for undepreciated assets. \$76 million for assets under development, and \$87 million for accrued leave liability. 17 Because the Defense Department financial management regulations include only general procedures governing the transfer of working capital fund activities to direct appropriations, the Department's processes and procedures for such transfers are open to interpretation and some Navy officials are disputing the transfer costs determined by the

¹⁴ Undepreciated capital assets are those items financed through the working capital fund whose value has not yet been recovered through reimbursable rates paid by customers.

 $^{^{15}}$ Assets under development are those items being manufactured, constructed, or otherwise developed for use by the activity but not yet delivered and installed.

¹⁶ The Navy has agreed to pay the working capital fund for the former Pearl Harbor shipyard's accumulated operating results or net financial position, obligations not yet paid, work items in inventory, and receivables less payables.

 $^{^{17}}$ The Navy still uses the Navy Working Capital Fund to fund its Norfolk Naval Shipyard, Virginia; the Puget Sound Naval Shipyard, Washington; and the Portsmouth Naval Shipyard, New Hampshire.

Office of the Secretary of Defense. The financial management regulations primarily address accounting procedures for transferring functions and do not specifically address processes and procedures for identifying all the categories (types) of costs and amounts that should be paid when a fund activity transfers to direct appropriations. Several Defense Department and Navy officials involved in the transfer believe that without more specific guidance the Navy will continue to dispute the Office of the Secretary of Defense's determination of buyout costs as the Navy considers transferring other shipyards to direct appropriations.

Second, Office of the Secretary of Defense and Navy officials differ about the potential impact of using direct appropriations on consolidated ship maintenance operations if potential funding gaps occur at the beginning of fiscal years or when expected maintenance costs exceed annual appropriations. A funding gap would occur if neither appropriations nor continuing resolutions were enacted before the start of a fiscal year. Operating under the working capital fund provides shipyard operators with significant flexibility because they are not directly subject to the annual appropriation cycle, are allowed to incur costs without the enactment of an appropriation, and are freed from reprogramming limitations and restrictions. Some Navy officials said that the flexibility provided by the fund for activities to continue maintenance operations during periods without appropriations would extend only a few weeks. According to these officials, this limited flexibility was considered a minor factor compared with the overall benefits of using direct appropriations to fund the consolidation. However, Office of the Secretary of Defense officials are still concerned about eliminating this flexibility on ship maintenance activities, and they note that shipyards using the working capital fund can continue ship maintenance projects from one fiscal year to another.

Third, Office of the Secretary of Defense and Navy officials differ about whether funding levels under direct appropriations will be sufficient to maintain an adequate capital improvement program for consolidated ship maintenance activities. Senior Office of the Secretary of Defense officials noted that the consolidated activities could have to compete for scarce funds under direct appropriations with other Navy programs and priorities. They further noted that the Navy has budgeted less than 5 percent of the identified program requirements for the consolidated facility for fiscal years 2003-07.

Consolidation Has Made More Effective Use of Workers and Facilities, but Overall Results of the Test Metrics Are Inconclusive The Pearl Harbor consolidation has made more effective use of workers and facilities by integrating 4,000 workers from two centers into a single workforce and reducing the maintenance infrastructure in Hawaii. The integration gave managers more flexibility to assign workers among maintenance projects and reduced the number of workers who are not assigned to ship maintenance work. The consolidated facility also turned over 13 of the 27 buildings previously used by the former Naval Intermediate Maintenance Facility to the Commander, Navy Region Hawaii, and it plans to vacate another six buildings. Further, although the Naval Audit Service spent a significant amount of resources to develop and validate the data, the results for two of the nine metrics indicated improvements since the consolidation: the cost to provide a direct maintenance hour was less in fiscal year 1999 and the labor hours expended to deliver a direct maintenance hour were less in fiscal year 1999 and half of fiscal year 2000 (see table 1).

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Table 1:	nesults of	the Pearl Harbo	r Pilot Test Wetric	s (as of July 2000)

Metric	Result	
Results indicate improvement		
Total cost of a maintenance shop direct labor hour of work delivered to the customer	Indicates improvements because the data generated by the Naval Audit Service showed that it has cost less to deliver one direct maintenance hour in fiscal year 1999. ^a	
	Because the consolidated facility did not routinely and systematically collect and report the full cost of operations, the cost to provide a direct maintenance hour during fiscal year 2000 was not available on an ongoing basis and the results for fiscal year 2000 were not yet known.	
Total labor hours expended to deliver a maintenance shop direct labor hour to the customer	Indicates improvements because the data showed that it took fewer hours to deliver one direct maintenance hour in fiscal year 1999 and during half of fiscal year 2000.	
Results are inconclusive with respect to the cons	solidation's accomplishments	
Total Current Ship Maintenance Program ^b work items completed	Is inconclusive because the data were affected by the increased use of borrowed workers since the consolidation, the decrease in the number of military personnel since the consolidation, and other influences unrelated to the consolidation.	
Total Current Ship Maintenance Program work items in the backlog	Is inconclusive because the data were affected by the increased use of borrowed workers since the consolidation, the decrease in the number of military personnel since the consolidation, and other influences unrelated to the consolidation.	
Schedule adherence of Chief of Naval Operations maintenance projects ^c	Is inconclusive because the data were affected by the increased use of borrowed workers since the consolidation and other influences unrelated to the consolidation.	
Rework index for Chief of Naval Operations maintenance projects	Is inconclusive because the change in the overall performance was too insignificant to form conclusions.	

Metric	Result	
Activity work schedule integrity index	Is inconclusive because the data indicated both positive and negative results depending on the type of maintenance project and were affected by the reliability of the estimated allowance of work (labor hours scheduled) for work items.	
Casualty reports caused by activity work	Is inconclusive because the change in the overall performance was too insignificant to form conclusions and there was no clear relationship between the reports and the quality of maintenance work.	
Earned value	Is inconclusive because the change in the overall performance was too insignificant to form conclusions, and the data indicated both positive and negative results depending on the work item and type of ship.	

^aThe Naval Audit Service validated the data and developed the metric values for the fiscal year 1997 baseline and fiscal years 1998 and 1999. According to Navy officials, there is no decision on whether the metric will be used to measure the performance of the consolidation in fiscal year 2000.

^bThe Current Ship Maintenance Program is the central database of items requiring maintenance work for each ship.

^eChief of Naval Operations projects include depot-level maintenance that requires skills or facilities of public and private shipyards.

Source: GAO's analysis of data provided by the Navy.

However, as table 1 shows, results for the seven metrics are inconclusive because decisions and circumstances external to the consolidation have driven the results, the change in the overall performance was insignificant, or the data indicated both positive and negative results. However, lessons learned from the metrics used in evaluating the Pearl Harbor consolidation should be useful in framing evaluation plans for future consolidations at other naval locations.

The consolidated facility, as did the former Pearl Harbor shipyard, continues to have difficulties in completing long-term, complex Chief of Naval Operations ship maintenance projects on schedule. For example, it experienced a 9-month delay in completing a Chief of Naval Operations maintenance project for the U.S.S. Chicago. This delay caused slippages in the completion of other long-term Chief of Naval Operations projects because employees originally scheduled to work on succeeding projects were still committed to the U.S.S. Chicago. In addition, the Navy has not consolidated all the industrial plant equipment and has not moved the projected number of overhead workers to direct maintenance positions to increase productivity.

Recommendations for Executive Action

GAO recommends that before the Navy implements permanent changes at the Pearl Harbor facility and any other consolidations of naval shipyards and intermediate maintenance activities, the Secretary of Defense direct

the Secretary of the Navy to implement a method to (1) account for the total cost of consolidated ship maintenance operations on an ongoing basis and (2) distinguish between depot and intermediate work of consolidated ship maintenance activities. The method should include appropriate costing methodologies or techniques that provide sufficient data to show compliance with relevant statutes and regulations.

To help prevent disputes in the transfer of working capital fund activities to direct appropriations, GAO recommends that the Secretary of Defense direct the Under Secretary of Defense (Comptroller/Chief Financial Officer) to clarify the Department's regulations, to include specifying the processes, procedures, and costing methodology, governing the transfers of working capital fund activities to direct appropriations.

GAO further recommends that before any naval shipyard is permanently transferred to direct appropriations, the Secretary of Defense direct the Under Secretary of Defense (Comptroller/Chief Financial Officer) and the Secretary of the Navy to resolve issues related to (1) buyout costs for the transfer, (2) loss of flexibility to continue routine ship maintenance operations through potential funding gaps at the beginning of fiscal years or when expected maintenance costs exceed annual appropriations, and (3) funding for the facility's capital improvement program.

GAO recommends that before the Navy consolidates additional shipyards and intermediate maintenance activities, the Secretary of Defense direct the Secretary of the Navy to develop additional metrics to measure the efficiency and effectiveness of consolidated ship maintenance activities, drawing on lessons learned from the consolidation at Pearl Harbor.

Department of Defense Comments and GAO's Evaluation

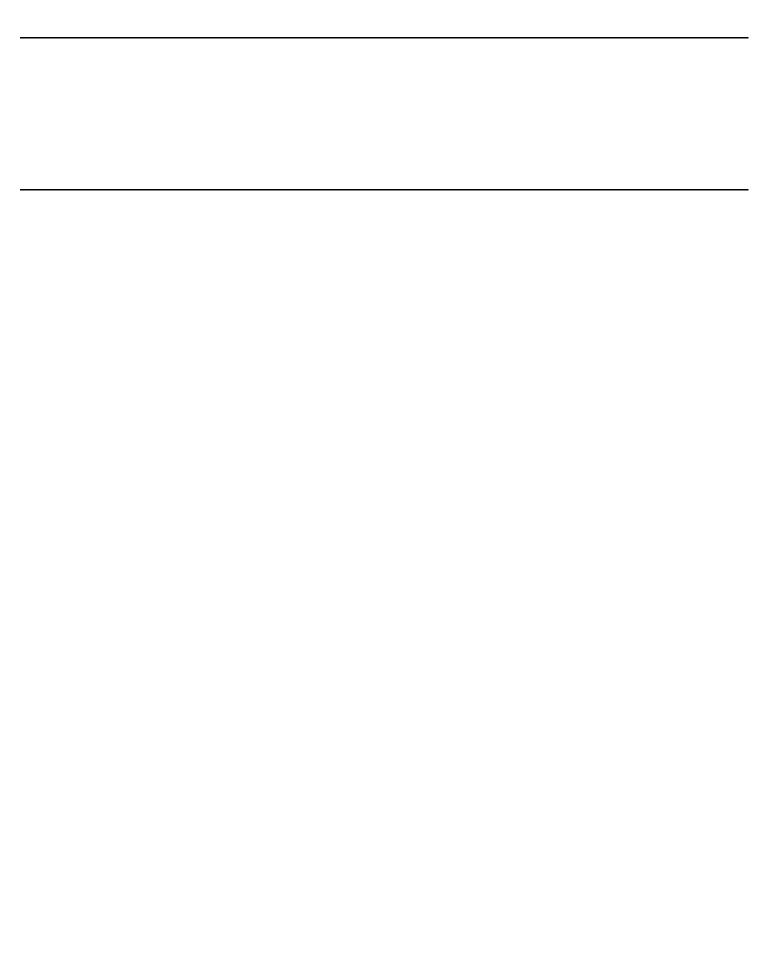
In its written comments on a draft of this report, the Department of Defense agreed with the report's recommendations. However, the Department did not indicate specific actions or milestones for resolving the financial issues first raised in GAO's 1999 report on the Pearl Harbor consolidation. As a result, GAO has added matters for congressional consideration to help ensure timely implementation of GAO's recommendations for executive action.

¹⁸ Depot Maintenance (GAO/NSIAD-99-199, Sept. 10, 1999).

The Department of Defense's comments are presented in appendix II. The Department also provided technical clarifications, and where appropriate, GAO incorporated them in the report.

Matters for Congressional Consideration

The Congress may wish to require the Secretary of the Navy to report the Navy's strategy and time frame for the implementation of a method to (1) account for the total cost of consolidated ship maintenance operations on an ongoing basis and (2) distinguish between depot and intermediate work of consolidated ship maintenance activities. In addition, the Congress may wish to require the Under Secretary of Defense (Comptroller/Chief Financial Officer) and the Secretary of the Navy to report their strategy and time frame for the resolution of issues related to (1) buyout costs for the transfer, (2) loss of flexibility to continue routine ship maintenance operations through potential funding gaps at the beginning of fiscal years or when expected maintenance costs exceed annual appropriations, and (3) funding for the facility's capital improvement program.



Introduction

During 1998, the Navy consolidated the Pearl Harbor Naval Shipyard and the Naval Intermediate Maintenance Facility in Hawaii. Because of concerns raised about certain aspects of the consolidation, the Navy implemented a test project, commonly called the Pearl Harbor pilot, to determine if integrating the management, operations, and funding of the shipyard and the intermediate maintenance facility can result in greater efficiency and lower overall ship maintenance costs. In September 1999, we reported the Pearl Harbor pilot was not yet complete and preliminary results were mixed, and we recommended that the Navy take steps to address unresolved issues related to financial management of the consolidated facility.¹

Navy Ship Maintenance Process

The Navy accomplishes maintenance on its surface ships and submarines at three levels: organizational, intermediate, and depot. Organizational-level maintenance includes all maintenance actions that can be accomplished by a ship's crew. For example, the ship's crew may replace or fix a cracked gasket or leaks around a hatch or doorway aboard ship. Traditionally, intermediate-level maintenance is accomplished by Navy intermediate maintenance activities for work that is beyond the capability or capacity of a ship's crew. An intermediate maintenance activity tests, calibrates, and repairs ship systems and equipment, which the ship's crew may not have the tools or capability to do. On the other hand, depot work includes all maintenance actions that require skills or facilities beyond those of the organizational and intermediate levels. Shipyards with extensive shop facilities, specialized equipment, and highly skilled personnel accomplish major repairs, overhauls, and modifications.² Figure 1 shows where the Navy's ship maintenance activities are located.

¹ Depot Maintenance (GAO/NSIAD-99-199, Sept. 10, 1999).

 $^{^2}$ The equipment and skills of intermediate maintenance activities are generally duplicated in a naval shipyard, but shipyards have equipment and skills intermediate activities do not have.

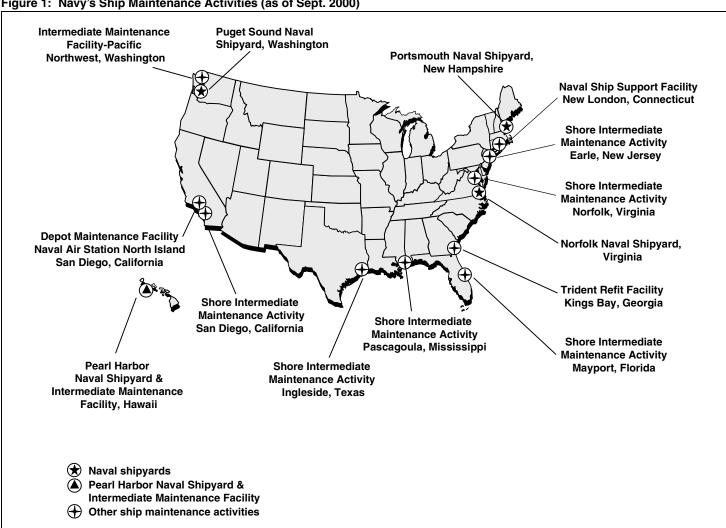


Figure 1: Navy's Ship Maintenance Activities (as of Sept. 2000)

Note: The Navy has maintenance ships (tenders) homeported in Guam and Italy and a ship repair facility in Japan.

Source: Our analysis of data provided by Navy officials.

Pearl Harbor Pilot Is a Part of the Navy's Regional Maintenance Program

In March 1994, the Chief of Naval Operations announced a regional maintenance program to streamline the Navy ship repair and maintenance processes, reduce infrastructure and costs, and maximize outputs. The plan was to (1) optimize intermediate-level maintenance through consolidation of intermediate activities, (2) integrate intermediate and depot activities to be managed by fleet commanders, and (3) conduct fleet maintenance using an integrated maintenance process supported by common business and maintenance procedures. The first phase, consolidation of intermediate-level maintenance, nears completion. For the second phase of the program, the Navy has implemented the Pearl Harbor pilot and may consolidate the operations of the Puget Sound Naval Shipyard and the Intermediate Maintenance Facility, Northwest (formerly the Trident Refit Center, Bangor, and the Ship Intermediate Maintenance Facility, Everett). The third phase, using a single maintenance process for fleet maintenance, is to be completed in fiscal year 2001.

Prior to the consolidation, the Pearl Harbor Naval Shipyard and the Naval Intermediate Maintenance Facility were individual commands with individual physical plants, organizational infrastructures, and administrative support services. The shipyard was managed by the Naval Sea Systems Command and funded through the Navy Working Capital Fund, while the intermediate maintenance facility was managed by the Pacific Fleet and financed through direct appropriations. Navy officials recognized that these different financial and organizational structures required them to use cumbersome, work-around procedures to share workloads and resources between the shipyard and the intermediate maintenance facility. The private ship repair facilities in Hawaii also complete a small amount of maintenance work for the Navy.

On April 30, 1998, the Navy consolidated the operations of the Pearl Harbor Naval Shipyard and the Naval Intermediate Maintenance Facility, including overhead functions such as engineering, quality assurance, occupational safety, and administration. Similarly, maintenance shops, crane operations, and calibration laboratories were also consolidated. Further, the Pacific Fleet assumed ownership and overall management and financial

³ According to the Department of Defense's written comments on a draft of this report, the Navy has not yet decided on the consolidation of the Puget Sound Naval Shipyard and the Intermediate Maintenance Facility, Northwest. Further, plans are not yet developed for consolidating the Norfolk Naval Shipyard, Virginia, and the Portsmouth Naval Shipyard, New Hampshire, with other naval ship maintenance activities.

responsibility for the consolidated facility, and the Naval Sea Systems Command continued to be the technical and operating authority. The Navy named the consolidated facility the Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility. This consolidation is the Navy's first attempt at the full-scale, total merger of two maintenance activities operating under separate command structures and financial systems.

To achieve a fully integrated organization, the Navy decided the consolidated facility should use a single financial structure and selected direct appropriations instead of the working capital fund during the pilot period. This decision was based on several factors, including the belief that the pilot goals could more readily be achieved by using direct appropriations. The Pacific Fleet was the largest customer of ship maintenance activities in Hawaii, and most Fleet maintenance activities (ship repair facilities, shore intermediate maintenance activities, trident refit centers, and aviation intermediate maintenance departments) were funded with direct appropriations. Thus, they expected fewer financial issues using direct appropriations because the Fleet could integrate the consolidated facility into its financial structure and would not need to establish another system. Several Navy officials also believed that the working capital fund included fees and charges that overstate ship maintenance costs compared to direct appropriations, under which some overhead is not directly assigned to the cost of operations. On the other hand, the working capital fund accounts for these costs in an attempt to identify the full cost of ship maintenance operations. While the level of resources required to carry out ship maintenance activities is likely to be similar regardless of whether financed using direct appropriations or the working capital fund, using the working capital fund a customer is more likely to be directly responsible for a larger portion of those costs. Use of a working capital fund better enables Department of Defense (DOD) components to fully account for their share of the program costs. If Navy officials decide that direct appropriations are the most appropriate financial structure at Pearl Harbor after the completion of the pilot, the consolidated facility would then be permanently transferred from the working capital fund.

Development of the Pilot Test Plan and Performance Metrics

The Deputy Secretary of Defense required the Navy to develop a test plan to determine whether the Pearl Harbor consolidation had resulted in an increased use of personnel and lower overall unit costs than separate facilities. A panel comprised of officials from the Office of the Secretary of Defense (OSD) and the Navy selected nine test metrics that represent a variety of issues and performance indicators for the consolidated facility (see table 2).

Table 2: The Navy's Nine Test Metrics for Evaluating the Pearl Harbor Consolidation's Impact on Productivity, Performance, and Costs

Metric	Indicator	Calculation
Total cost of a maintenance shop direct labor hour of work delivered to the customer	Efficiency in terms of the cost per direct maintenance hour	Total costs of the ship maintenance activity or activities divided by the total maintenance shop direct labor hours delivered
Total labor hours expended to deliver a maintenance shop direct labor hour to the customer	Productivity in terms of personnel utilization	Total available labor hours (sum of the overhead and maintenance hours) divided by the total maintenance shop direct labor hours delivered
Total Current Ship Maintenance Program work items completed	Productivity in terms of the number of work items completed	None required; absolute number of completed Current Ship Maintenance Program work items used
Total Current Ship Maintenance Program work items in the backlog	Material conditions of Pacific Fleet ships in terms of work items not yet completed	None required; absolute number of Current Ship Maintenance Program work items in the backlog used
Schedule adherence of Chief of Naval Operations maintenance projects	Customer satisfaction in terms of completing projects on schedule	Sum of the differences in the actual and scheduled completion dates divided by the total scheduled duration (number of days) for each Chief of Naval Operations' scheduled ship maintenance project completed during the fiscal year
Rework index for Chief of Naval Operations maintenance projects	Quality of work in terms of hours required to correct work deficiencies	Sum of the labor hours expended to correct work deficiencies divided by the total number of direct labor hours delivered for each Chief of Naval Operations' scheduled ship maintenance project completed during the fiscal year
Activity work schedule integrity index	Customer satisfaction in terms of completing work (labor hours expended) within the budgeted allowance of work (labor hours scheduled)	Actual amount of work performed (labor hours) divided by the budgeted allowance of work scheduled (labor hours)

⁴ Program Budget Decision 404, DOD (Dec. 11, 1997).

Casualty reports caused by activity work	Quality of work based on ship reports indicating equipment failure	Analysis of reports provided within 6 months following the completion of maintenance
Earned value	Productivity in terms of labor hours to complete similar work items	Statistical analysis of actual quantity of work performed (labor hours) for selected work items

Note: Approved by the Principal Deputy Under Secretary of Defense (Comptroller) on Sept. 14, 1998. Source: Pearl Harbor pilot test plan, as amended, the Department of the Navy.

The Navy used fiscal year 1997 as the baseline for measuring success or failure of the consolidated facility because this was the last full year the former Pearl Harbor shipyard and the intermediate maintenance facility operated as independent activities. The baseline is compared with data for fiscal year 1999. Fiscal year 1998 was eliminated because of the operational turbulence expected by the consolidation of activities during the year.

Congressional Requirements for the Pearl Harbor Pilot

The Conference Report for the Department of Defense Appropriations Act for Fiscal Year 1998⁵ concluded that it would take at least 2 years before the Navy could determine whether the consolidation of maintenance activities for the pilot was effective and should be made permanent or expanded to other locations. The report directed the Navy to report its findings from the pilot to the Committees on Appropriations on or after April 1, 1999, and not to expand the pilot until 6 months after it had made its report. The conferees also directed the Navy not to make any permanent changes to the workforce in terms of total number of employees or any other permanent changes until the pilot was completed. Navy officials expect to issue the report in fiscal year 2001.

Our Prior Concerns About the Pearl Harbor Pilot

At the time of our 1999 report, we noted that while the consolidation of shipyard and intermediate maintenance activities offered clear benefits, the close proximity of the facilities and the larger portion of Fleet-funded work in Hawaii may favorably affect the pilot's results; this may not be the case at other locations. Consequently, we concluded the Pearl Harbor pilot provided only a general indication that future consolidations would result in efficiencies largely because of unique aspects of Pearl Harbor ship maintenance activities and financial management issues. Further, we

⁵ House Report 105-265, Sept. 23, 1997.

reported that OSD and Navy officials had different opinions over the potential impact of using direct appropriations on the following issues.

- Cost visibility and accountability for consolidated ship maintenance operations. The Congress established working capital funds to, among other purposes, provide a flexible funding mechanism that would allow defense industrial and service activities to operate on the same basis as the private sector, including the use of standard cost accounting practices and techniques. According to OSD officials, applying these practices and techniques has made shipyard costs more visible and improved the efficiency of operations.
- Naval shipyards and activities remaining in the working capital fund.
 OSD officials were concerned that the Navy had not adequately addressed the impact of removing all naval shipyards from the working capital fund. They believed that if the Navy removed the shipyards from the fund, the Navy would have to request direct appropriations to pay the cost of the shipyards to transfer from the working capital fund or other activities in the fund would need to absorb a larger share of costs.
- Ship maintenance activities during periods without appropriations. A working capital fund is not directly subject to the annual appropriations cycle and can continue operations without interruption between fiscal years. Consequently, the former Pearl Harbor shipyard operators were freed from reprogramming limitations and restrictions applicable to regular appropriations and were allowed to incur costs without waiting for enactment of an appropriation. Because this financial flexibility is considered critical to shipyard operations, OSD officials were concerned that the Navy had not addressed how eliminating this flexibility would affect Pearl Harbor operations or future consolidations.
- Capital improvement program for consolidated ship maintenance activities. According to OSD officials, an important aspect of a working capital fund is its capital improvement program. In the case of the former Pearl Harbor shipyard, it depreciated its capital assets and collected this expense through the reimbursable rate charged to its customers. Therefore, the fund had a ready reserve to finance capital improvements for the shipyard. However, OSD officials were concerned that future funding levels may be insufficient because of uncertainties in the appropriation process.

⁶ See 10 U.S.C. 2208.

We concluded that while the consolidation of shipyard and intermediate maintenance activities offered clear benefits, financial management issues existed that needed to be resolved for future operations at Pearl Harbor and in considering other consolidations. OSD concurred with the intent of our recommendations to resolve financial management issues related to the consolidation at Pearl Harbor and indicated that the Departments of Defense and the Navy would correct them. This report discusses the extent to which these issues have been addressed by the Departments.

The Navy has not provided adequate cost visibility and accountability over ship maintenance activities at Pearl Harbor following the consolidation because it has not implemented a method to routinely and systematically accumulate and account for the full cost of operations or distinguish between depot and intermediate work performed by consolidated ship maintenance facilities. The consolidated facility's management and financial systems do not readily identify and report the full cost of ship maintenance operations. Federal accounting standards require that the systems account for the full cost of operations, including the depreciation of facilities and equipment, centrally managed financial and technical support services, selected base operating support, maintenance shops overhead, military personnel, and borrowed workers. Consequently, OSD and Navy officials have not had complete, reliable data needed for making fully informed decisions related to the management of ship maintenance activities and for establishing goals and measuring performance. Specifically, at the time of our review, they did not have reliable data on an ongoing basis to determine the total cost of delivering a direct labor hour of ship maintenance work—a key metric for evaluating the consolidated facility's productivity and performance. Furthermore, the facility's systems do not distinguish between depot and intermediate work, even though 10 U.S.C. 2466 limits the funds that may be used for contractor performance of depot maintenance work and requires DOD to report on the allocation of depot-level workloads between public and private sectors. Additionally, OSD and Navy comptroller officials question the reliability of Pearl Harbor's data that are used to show compliance with the Chief Financial Officers Act (P.L. 101-576) and the Government Performance and Results Act (P.L. 103-62).

Cost Visibility and Accountability Varied Prior to the Consolidation Prior to the consolidation, the former Pearl Harbor shipyard and intermediate maintenance facility operated their own management and financial systems. The former shipyard was funded through the working capital fund and used the Shipyard Management Information System (an intricate network of interfacing systems intended to support planning, timekeeping, payroll, material, and cost accounting) to provide management information for the shipyard. The former intermediate maintenance facility was funded through direct appropriations and used the Standard Accounting and Reporting System and the Maintenance Resource Management System. The Standard Accounting and Reporting System was relied on to track, monitor, and report on appropriations, obligations, and expenditures for the intermediate facility such as materials and civilian personnel. The Maintenance Resource Management System

was used to schedule work, set priorities, procure materials, and establish time frames. Neither system was designed to provide information on the full costs of the intermediate facility's operations.

Management and Financial Systems Do Not Account for All Ship Maintenance Costs at Pearl Harbor

Even though federal accounting standards require federal agencies to determine the full cost of operations, the Pearl Harbor's management and financial systems do not account for the cost of the depreciation of facilities and equipment, centrally managed financial and technical support services, overhead costs by maintenance shop, selected base operating support, military personnel, and borrowed workers. This has inhibited the Navy's ability to produce reliable cost data that are essential for making informed decisions related to the management of ship maintenance activities and for the establishment of strategic goals and the measurement of accomplishments and performance against established goals. While this lack of adequate cost visibility and accountability may not directly affect those managers and workers performing ship maintenance and repairs at Pearl Harbor, it has generated significant concern among officials at higher organizational levels outside the consolidated facility. For example, senior OSD and Navy officials have been concerned about the Navy's ability to provide adequate cost visibility and accountability for ship maintenance operations at Pearl Harbor and about the reliability of ship maintenance data for Pearl Harbor used to show compliance with relevant statutes and regulations.

The Statement of Federal Financial Accounting Standards No. 4 requires federal agencies to accumulate the full cost of outputs through appropriate costing methodologies or "cost finding" techniques. The full cost of an output is the sum of the (1) cost of resources consumed that directly or indirectly contribute to the output and (2) cost of identifiable supporting services provided by other entities. As such, the financial structure used to fund federal activities has no bearing on determining the full cost of an output. Compliance with these standards is intended to provide managers relevant and reliable data for making resource allocations, program modifications, and performance evaluations; comparing costs to outputs; and generating financial and performance reports.

Our review of the consolidated facility's management and financial systems showed that the facility did not routinely and systematically identify and accumulate data on the full cost of its ship maintenance operations in accordance with *Statement of Federal Financial Accounting Standards No. 4.* Contrary to the standards to identify the full cost of operations, the

consolidated facility's systems did not recognize costs if they are paid by other Navy activities. Pacific Fleet and Pearl Harbor officials stated that their focus is to manage the consolidated facility's appropriations and obligations and to execute the allocated funding within budget authority. In addition, they stated their belief that their systems and processes are not required to identify and accumulate data on any costs not paid from the appropriated funding provided to the consolidated facility. Specifically, at the time of our review, the categories of costs associated with consolidated ship maintenance operations that the facility's systems did not routinely and systematically identify and accumulate include:

- Facilities and equipment depreciation. Depreciation costs are no longer accumulated because the former Pearl Harbor shipyard and all of its facilities and equipment are now Pacific Fleet assets that will be recapitalized through direct appropriations. Prior to consolidation, depreciation costs, reported to be \$10.6 million in fiscal year 1997, were considered in developing the former shipyard's reimbursable rate used to collect the costs of its maintenance operations from its customers.
- Centrally managed financial and technical support services. Support services costs were a reported \$1.9 million for the former Pearl Harbor shipyard in fiscal year 1999, but these costs are no longer accumulated at the consolidated facility because they are not included in its reimbursable rate. For example, Defense Finance and Accounting Service support costs are not accumulated; instead, the Pacific Fleet assumed responsibility for the costs and their payment. In another example, the Naval Sea Systems Command's centrally managed technical support costs (automated data processing, depot maintenance report preparation, and shipyard management support) are no longer accumulated because the Command assumed responsibility for the costs and their payment.
- Selected base operating support costs. The costs for security, utilities, water, steam, sewage, and recurring maintenance (infrastructure) activities are no longer accumulated by the consolidated facility. Prior to consolidation, the costs were accumulated and allocated to jobs as overhead costs and recovered through the former shipyard's reimbursable rate. Now, the Navy Regional Commander is responsible for these costs, estimated at \$13.7 million and \$20.6 million in fiscal years 1999 and 2000, respectively.

 $[\]overline{}$ Depreciation is the allocation of the cost of fixed assets (buildings, equipment, and other properties) over their period of usefulness.

- Overhead costs by maintenance shop and work item. Pacific Fleet and Pearl Harbor officials believe there is no longer a need to determine overhead costs by maintenance shop and work item because there is no longer a need to accumulate such costs for the purposes of developing cost data to be factored into the consolidated facility's reimbursable rate. Currently, overhead costs are funded with direct appropriations, accounted for by cost category, and monitored to ensure that expenditures do not exceed allocations. Previously, the former shipyard accounted for overhead costs by individual maintenance shops and work items.
- Military personnel costs. Pacific Fleet and Pearl Harbor officials believe there is no longer a need to account for military personnel costs because they are managed by the Navy's Bureau of Naval Personnel and funded by the Bureau with direct appropriations. These costs are no longer considered reimbursable and are not accumulated by the consolidated facility. Prior to the consolidation, the former shipyard accounted for these costs as overhead in its reimbursable rate and paid the Bureau of Naval Personnel for its military personnel with proceeds collected from its customers.
- Borrowed labor costs. The Navy uses borrowed workers to balance total resources with workload among its shipyards, but these costs are no longer accumulated by maintenance project and work item in Hawaii. They are funded with direct appropriations, included in the material cost category, and monitored to ensure that expenditures do not exceed allocations. Prior to consolidation, the former shipyard accounted for the costs by maintenance project and work item and paid other naval shipyards for the borrowed labor with proceeds collected from its customers.

Because the Navy does not routinely and systematically accumulate and account for the full cost of operations for the consolidated facility, OSD and Navy officials have not had complete, reliable data needed for making fully informed decisions related to the management of ship maintenance activities and for establishing goals and measuring performance. For example, at the time of our review, officials did not have data to determine on an ongoing basis whether their ship maintenance operations were costing less or more to provide a direct maintenance hour—a key metric for evaluating the consolidated facility's productivity and performance. Pearl Harbor officials attempted to generate this information during fiscal year 2000 but were unsuccessful because of difficulties in reconciling cost data between the consolidated facility's management and financial systems and in duplicating the Naval Audit Service's method for developing the

metric value. Concerns about the adequacy of data had led the Chief of Naval Operations and the Commander, Naval Sea Systems Command, to ask the Naval Audit Service to develop the fiscal year 1997 baseline value, validate the data, and develop values for the metric for fiscal years 1998 and 1999. According to Navy officials, there is no decision on whether the metric will be used to measure the performance of the combined facility in fiscal year 2000.

Management and Financial Systems Do Not Distinguish Between Depot and Intermediate Work

Pacific Fleet and Pearl Harbor officials maintain that all work is considered the same in the consolidated facility. Consequently, the Navy cannot readily identify the cost expended by the consolidated facility for depot-level work to show compliance with (1) the 10 U.S.C. 2466 depot maintenance allocation limits and associated reporting requirements for DOD departments and agencies and (2) DOD financial regulations that implement the depot maintenance reporting requirements.

Section 2466 of title 10 requires that not more than 50 percent of funds allocated in a fiscal year for depot work can be used for contractorperformed work and requires the Secretary of Defense to report to the Congress on depot-level workloads during the proceeding two fiscal years. Section 2460 of title 10 requires that depot-level maintenance includes all workloads, regardless of its funding source and work location. Furthermore, DOD financial management regulations (vol. 6, ch. 14) require all depot maintenance activities, regardless of their funding source, to uniformly record, accumulate, and report costs incurred in their depot maintenance operations and require these activities to maintain systems to collect the data. Each activity is required to collect data on direct labor hours and costs, material costs, and other direct costs; operations overhead costs; general and administrative costs; total maintenance costs; and cost per direct labor hour. OSD officials use these data to analyze historical cost trends, evaluate and oversee resources and budgets, develop direction and guidance, estimate depot maintenance requirements, examine cost drivers, and comply with the 10 U.S.C. 2466 depot maintenance allocation and reporting requirements.

Prior to consolidation, the Navy's determination of depot and intermediate maintenance work was based on which facility performed it: the former Pearl Harbor shipyard performed depot work, and the former intermediate maintenance facility performed intermediate work. However, because Pacific Fleet and Pearl Harbor officials maintain that all work is considered and classified the same at the consolidated facility, the management and

Chapter 2 Navy Does Not Provide Adequate Cost Visibility and Accountability of Consolidated Ship Maintenance Activities at Pearl Harbor

financial systems do not differentiate between depot and intermediate categories of work. Consequently, the Navy cannot readily identify the cost associated with the depot-level workload completed by the consolidated facility to show compliance with the 10 U.S.C. 2466 depot maintenance allocation and reporting requirements and with DOD financial regulations that implement these requirements.

Inadequate Cost Data Used to Show Compliance With Applicable Statutes

Because of inadequate cost visibility and accountability, DOD and Navy comptroller officials question the reliability of Pearl Harbor's data that are used to show compliance with the Chief Financial Officers Act (P.L. 101-576) and establish and measure performance against goals under the Government Performance and Results Act (P.L. 103-62). In some instances, officials have used rough estimates to comply with the acts.

The Chief Financial Officers Act requires federal agencies to develop and report cost information and periodic performance measurements. Cost information is necessary for establishing strategic goals, measuring service efforts and accomplishments, and reporting actual performance against established goals and is essential for assessing governmental accountability. In addition, the Government Performance and Results Act, which mandates performance measurements by federal agencies, requires each agency to establish performance indicators for each program and measure or assess relevant outputs, service levels, and outcomes of each program as a basis for comparing results with established goals.

According to OSD and Navy comptroller officials, the reliability of the data provided by the Pacific Fleet and Pearl Harbor officials to show compliance with the Chief Financial Officers Act and the Government Performance and Results Act was questionable. For example, Pacific Fleet and Pearl Harbor officials developed rough estimates of the overhead cost rates for maintenance shops for incorporation with other cost data to show compliance with the acts. As discussed previously, overhead rates were allocated to maintenance shops prior to consolidation so that the total cost of operations would be captured through the reimbursable rates the former

Chapter 2 Navy Does Not Provide Adequate Cost Visibility and Accountability of Consolidated Ship Maintenance Activities at Pearl Harbor

shipyard charged to its customers.² Pacific Fleet and Pearl Harbor officials believe there is no longer a need to determine overhead costs by maintenance shop because such costs are no longer accumulated for the purposes of developing data to be factored into the consolidated facility's reimbursable rate. Although Pacific Fleet and Pearl Harbor officials developed rough estimates of these overhead rates for the facility in fiscal year 1999, OSD and Navy comptroller officials said that they were imprecise at best. Pacific Fleet and Pearl Harbor officials acknowledged that they have had difficulties providing data that are timely and reliable and that can be used to meet the requirements of applicable statutes.

² While the intent was to set the reimbursable rate for the former Pearl Harbor shipyard to capture the total cost of maintenance operations, our financial statement audits have repeatedly highlighted long-standing problems accumulating and reporting the full costs associated with working capital fund operations. *Department of Defense: Progress in Financial Management Reform* (GAO/T-AIMD/NSIAD-00-163, May 9, 2000).

Issues Related to the Financial Structure for Consolidations of Ship Maintenance Activities at Pearl Harbor and Elsewhere Are Still Not Resolved

As we discussed in our prior report, OSD and Navy officials differ still over three key issues related to the financial structure for the consolidation of ship maintenance activities at Pearl Harbor and other locations. First, OSD officials believe the Navy should reimburse the working capital fund for undepreciated capital assets (assets financed through the working capital fund whose value has not yet been recovered) and assets under development (assets purchased but not delivered) when a naval shipyard is transferred to direct appropriations. However, some Navy officials believe they do not need to refinance these items because they have already been financed with funds provided by shipyard customers. Second, officials differ about whether consolidated facilities funded with direct appropriations will be able, as are naval shipyards operating under the working capital fund, to continue routine maintenance operations if potential funding gaps occur at the beginning of fiscal years or when expected maintenance costs exceed annual appropriations. A working capital fund is not directly subject to the annual appropriation cycle, which means shipyard operators can incur some costs without waiting for enactment of an appropriation and operators are free of reprogramming limitations and restrictions applicable to direct appropriations. Third, officials differ about whether funding levels under direct appropriations will be sufficient to maintain an adequate capital improvement program for the consolidated facilities funded with direct appropriations because of uncertainties in competing with other Navy programs and priorities for funding during the budgeting and appropriation processes.

Buyout Costs for Transferring to Direct Appropriations Not Yet Agreed Upon

When the Pearl Harbor pilot was implemented, OSD officials determined that the Navy would need to make the working capital fund financially whole if it decided to permanently transfer the former Pearl Harbor shipyard to direct appropriations. According to OSD officials, the costs of such transfers, collectively called buyout costs, include liabilities, accumulated operating results (or net financial position), accrued employee leave, and undepreciated capital assets. Because DOD financial management regulations (vol. 11B, ch. 51) include only general procedures governing the transfer of working capital fund activities to direct appropriations, DOD's processes and procedures for such transfers are open to interpretation and some Navy officials are disputing the transfer costs determined by OSD. The financial management regulations primarily address accounting procedures for transferring functions and do not specifically address processes and procedures for identifying all the categories (types) of costs and amounts that should be paid when a fund activity transfers to direct appropriations. Several OSD and Navy officials

Chapter 3
Issues Related to the Financial Structure for Consolidations of Ship Maintenance
Activities at Pearl Harbor and Elsewhere Are
Still Not Resolved

involved in the transfer believe that without more specific guidance the Navy will continue to dispute OSD's determination of buyout costs as the Navy considers transferring other shipyards to direct appropriations.

OSD and Navy officials differ on whether the Navy should reimburse the working capital fund for the value of the former shipyard's undepreciated capital assets and assets under development, and the Navy has requested a waiver for the accrued leave liability. If the former Pearl Harbor shipyard is formally transferred from the working capital fund, OSD officials believe the Navy should pay the fund an estimated \$101.4 million for undepreciated capital assets and \$9 million for assets under development. However, some Navy officials believe that the former shipyard's customers have already paid for these assets and that they do not need to request or allocate appropriations to pay them. Additionally in May 1998, the Navy requested a waiver from the Office of Management and Budget on paying the former shipyard's accrued leave liability, reported to be \$14.3 million by OSD.¹ However, the Office of Management and Budget rejected the Navy's request. Should the Navy decide to permanently transfer all naval shipyards from the fund, the Navy could be required to pay more than \$553 million based on OSD and Navy data for these items: \$390 million for undepreciated assets, \$76 million for assets under development, and \$87 million for accrued leave liability.

In fiscal year 1999, the Navy paid the working capital fund \$18.4 million for the former Pearl Harbor shipyard's accumulated operating results, obligations not yet paid, work items in inventory, and receivables less payables. These selected buyout costs were derived through a series of lengthy meetings with OSD and Navy officials.

Less Flexibility to Continue Maintenance Operations During Potential Funding Gaps and Shortfalls Is a Concern OSD and Navy officials differ about whether the consolidated facility will be able, as are naval shipyards financed under the working capital fund, to continue routine ship maintenance operations if potential funding gaps occur at the beginning of fiscal years or expected maintenance costs exceed annual appropriations. Because a working capital fund is not directly subject to the annual appropriation cycle, the fund allows former shipyard operators to incur some costs without waiting for enactment of an

¹ Office of Management and Budget Circular A-34.

Chapter 3
Issues Related to the Financial Structure for
Consolidations of Ship Maintenance
Activities at Pearl Harbor and Elsewhere Are
Still Not Resolved

appropriation and provides them freedom from reprogramming limitations and restrictions applicable to regular appropriations.

Continuation of Routine Maintenance Operations Through Potential Funding Gaps at the Beginning of Fiscal Years Is a Concern OSD officials are concerned that the consolidated facility will not be able to continue routine ship maintenance operations at the beginning of fiscal years if a funding gap occurs. A funding gap would occur if neither appropriations nor continuing resolutions were enacted before the start of a fiscal year. Operating under the working capital fund, former shipyard operators were allowed to incur some costs without waiting for enactment of an appropriation. However, some Pacific Fleet and Naval Sea Systems Command officials said that the flexibility provided by the fund for activities to continue maintenance operations during periods without appropriations or continuing resolutions would extend only a few weeks. According to these officials, this limited flexibility was considered a minor factor compared with the overall benefits of using direct appropriations to fund the consolidated facility. However, OSD officials are still concerned about eliminating this flexibility on ship maintenance activities, and they note that shipyards using the working capital fund are able to continue ship maintenance projects from one fiscal year to another.

Continuation of Routine Maintenance Operations If Expected Costs Exceed Appropriations Is a Concern OSD officials have concerns about whether the consolidated facility will be able, as are naval shipyards operating under the working capital fund, to continue routine ship maintenance operations when expected maintenance costs exceed annual appropriations. As discussed previously, activities operating under the working capital fund are not directly subject to the annual appropriation cycle and can continue operations through the end of fiscal years without being concerned about reprogramming limitations and restrictions applicable to direct appropriations.

In fiscal year 1999, the Pacific Fleet transferred \$30.8 million to alleviate the funding shortfall for the consolidated facility (see table 3). According to Pearl Harbor officials, a funding shortfall made it difficult to execute planned work on schedule because of uncertainties about whether the necessary funds would be obtained from another source in sufficient time to meet schedules.

Chapter 3
Issues Related to the Financial Structure for
Consolidations of Ship Maintenance
Activities at Pearl Harbor and Elsewhere Are
Still Not Resolved

Table 3: Source of Funding for the Consolidated Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility in Fiscal Year 1999

Dollars in millions Category of fund	Amount in the Navy's budget request	Initial Pacific Fleet allocation	Net amount transferred to alleviate shortfall	Final budget authority
Ship depot operations support	\$253.9	\$244.9	\$0.3	\$245.2
Ship depot maintenance			30.5	30.5
Total	\$253.9	\$244.9	\$30.8	\$275.8

Note: Figures do not total due to rounding and do not include \$4.35 million appropriated for the consolidated facility's apprentice program in fiscal year 1999.

Source: Our analysis of data provided by the Navy.

As shown in table 3, the Pacific Fleet moved a reported \$30.8 million in budget authority, mostly in the last 2 months of fiscal year 1999, to meet the funding shortfall the consolidated facility experienced in fiscal year 1999. The Pacific Fleet allocated a reported \$244.9 million in ship depot operations support funds to the consolidated facility in fiscal year 1999, \$9 million less than originally requested. The Fleet later allocated the consolidated facility an additional \$300,000 in depot operations support funds and an additional \$30.5 million in ship depot maintenance funds.² According to Navy officials, the Fleet obtained most of the \$30.8 million from other fleet-funded commands and activities.

According to Pacific Fleet and Pearl Harbor officials, the funding shortfall resulted because the budgeting process for the consolidated facility in fiscal year 1999 did not adequately accommodate changes inherent in the transfer from working capital fund to direct appropriations. They note that even after the transfer to direct appropriations, the Navy funded the

² In fiscal year 1999, the Navy classified appropriations for the Pearl Harbor pilot as 1B5B ship depot operations support funds. Traditionally, 1B5B funds are intended to finance a variety of depot maintenance programs, including contract administrative support for ship repairs, the fleet modernization program, and the berthing and messing program. Funds appropriated for depot maintenance repairs are identified in the federal budget as 1B4B ship depot maintenance funds and are intended to support Navy depot-level ship maintenance work conducted at public and private shipyards. Funds appropriated for intermediate maintenance activities are identified as 1B3B ship intermediate maintenance funds and are intended to support maintenance and support activities performed at the Navy's intermediate maintenance facilities. Navy officials believed that providing 1B5B appropriations for the pilot would make the funds easier to track and provide for increased cost visibility overall.

Chapter 3
Issues Related to the Financial Structure for
Consolidations of Ship Maintenance
Activities at Pearl Harbor and Elsewhere Are
Still Not Resolved

consolidated facility at less than its projected workload for fiscal year 1999. Consequently, the budgeted amount was insufficient to fund the overtime and borrowed workers needed to accomplish the workload in fiscal year 1999 and they had to transfer and reprogram funds originally allocated to other activities to meet the funding shortfall. Additionally, some maintenance work was postponed to another time.

Uncertainties in the Capital Improvement Program

Because of uncertainties in competing with other Navy programs and priorities for funding during the budgeting and appropriations processes, OSD and Navy officials differ about whether funding levels under direct appropriations will be sufficient to maintain an adequate capital improvement program for the consolidated facility. In the management agreement for the consolidation of the former Pearl Harbor Naval Shipyard and Naval Intermediate Maintenance Facility, the Naval Sea System Command is identified as responsible for requirements determination, planning, programming, budgeting, and acquisition cost of plant property and industrial plant equipment. Following the Command's approval and the Pacific Fleet's concurrence, capital improvement requirements are forwarded to the Chief of Naval Operations, where the requirements must compete against other Navy programs and priorities for limited appropriated funds. The former Pearl Harbor shipyard depreciated its capital assets and collected this expense through its reimbursable rate charged to customers and received a reported \$56 million for capital improvements during fiscal years 1993-98.

Senior OSD officials have concerns whether adequate funding will materialize in the future because the consolidated facility must compete for scarce funds under direct appropriations with other Navy programs and priorities. Recently, the Navy allocated \$7.5 million in fiscal year 1999 appropriations and \$5.7 million in fiscal year 2000 appropriations for capital improvement items at Pearl Harbor. Fiscal year 2001 funding totals \$18.6 million, which includes a \$17-million congressional add-on for the consolidated facility. However, according to senior OSD and Navy officials, the Navy has budgeted less than 5 percent of the identified program requirements for the consolidated facility for fiscal years 2003-07.

The consolidation of the shipyard and intermediate ship maintenance activities at Pearl Harbor has improved and streamlined maintenance operations by making more effective use of workers and facilities, but overall results of the test metrics are inconclusive. The consolidation has increased overall flexibility of ship maintenance activities in Hawaii by establishing a single workforce from two work centers and reducing the maintenance infrastructure. Further, data for two of the nine metrics indicate improvements since the consolidation: the cost to provide a direct maintenance hour was less in fiscal year 1999 and the labor hours expended to deliver a direct maintenance hour were fewer in fiscal year 1999 and half of fiscal year 2000. However, because the consolidated facility did not routinely and systematically collect and report the full cost of operations, the cost to provide a direct maintenance hour during fiscal year 2000 was not available on an ongoing basis. The results for the seven other metrics are less conclusive of the consolidation's accomplishments because factors unrelated to the consolidation affected the data, the change in the overall performance was insignificant, or the data indicated both positive and negative results. However, lessons learned from the metrics used in evaluating the Pearl Harbor consolidation should be useful in framing evaluation plans for future consolidations at other naval locations. Although the Navy is working to improve its performance, the consolidated facility continues to experience difficulties in completing long-term, complex ship maintenance projects on schedule, as did the former Pearl Harbor shipyard. Other potential benefits of the consolidation have not been fully realized because the planned number of overhead workers has not been moved to direct maintenance positions and equipment has not been entirely consolidated to increase productivity.

Benefits Have Been Achieved

As the Navy envisioned, the consolidation has integrated workers from two work centers into a single workforce and reduced the maintenance infrastructure in Hawaii. As planned, the Navy has integrated approximately 4,000 workers from two separate work centers into a common pool, thereby increasing management flexibility in assigning workers to maintenance projects. Prior to the consolidation, it was difficult to shift work or personnel between maintenance activities due to multiple independent organizational and financial structures. Accordingly, when

¹ Pilot Study Report for an Integration of Pearl Harbor Naval Shipyard and Naval Intermediate Maintenance Facility, Pearl Harbor, Pearl Harbor Pilot Executive Steering Committee (Aug. 26, 1997).

administrative and financial requirements restricted the movement of workers, shipyard maintenance personnel not working on a specific maintenance project were sent to the excess labor shop to wait for an assignment and perform non-ship work such as facility maintenance or grounds-keeping. Between 100 and 200 workers were assigned daily to this shop. By integrating the two workforces, maintenance shops now have more flexibility in assigning excess workers to other projects, including projects historically completed by the former intermediate maintenance facility. In our 1999 report, we noted that the number of workers assigned daily to the excess labor shop had dropped to below 10 after the consolidation. Although Pearl Harbor officials told us during this review that the number of workers assigned daily to the excess labor shop continued to drop, we could not verify the statement because the consolidated facility had revised its process for assigning the workforce and no longer identifies excess workers.

Because of the consolidation, the Navy has reduced the maintenance infrastructure at Pearl Harbor. For example, 13 (125,782 square feet) of the 27 buildings previously used by the former Naval Intermediate Maintenance Facility were turned over to the Commander, Navy Region Hawaii. While the consolidated facility will retain 6 of the remaining 14 intermediate maintenance buildings, Pacific Fleet and Pearl Harbor officials plan to vacate another six (20,074 square feet) and is reviewing the disposition of two (16,996 square feet) buildings. As of May 2000, the Commander, Navy Region Hawaii, had demolished or had plans to demolish three former intermediate maintenance buildings and was able to demolish two of its buildings after tenants moved into vacated intermediate maintenance buildings. The demolition cost for all five buildings and a portion of an additional building is estimated at \$1.8 million, with a projected annual cost avoidance of \$312,000 or a payback period of a little less than 6 years.

Data for Two of the Nine Test Metrics Indicate Improvements

Data for the following two key metrics indicate improvements in performance. It is important to note that the Naval Audit Service expended significant resources to develop and validate the data for these two metrics, which are the most reliable metrics for making pre- and post-consolidation comparisons.

² Limited-duty personnel with medical injuries or health problems and personnel whose security clearance levels were under review were also assigned to the excess labor shop.

Total Cost of a Maintenance Shop Direct Labor Hour of Work Delivered Is Less

Fiscal year 1999 data for this metric indicate that the cost of delivering one direct maintenance hour is less since the consolidation. The Naval Audit Service determined that it cost \$138.99 to deliver a maintenance shop direct labor hour in fiscal year 1999, compared with the adjusted baseline cost of \$144.51 in fiscal year 1997.³

Pearl Harbor officials were unsuccessful in their attempts to determine the total cost to provide a direct maintenance hour during fiscal year 2000 because of difficulties in reconciling cost data between the consolidated facility's systems and in duplicating the Naval Audit Service's methodology for developing the metric. As discussed in chapter 2, the consolidated facility's management and financial systems do not routinely and systematically accumulate the cost data to generate the metric. Because of concerns about the adequacy of data before the consolidation, the Chief of Naval Operations and the Commander, Naval Sea Systems Command, asked the Naval Audit Service to determine the cost of operations for the former shipyard and the intermediate maintenance facility in fiscal year 1997. The Audit Service was later tasked to determine the fiscal year 1999 post-consolidation cost of operating the consolidated facility, compute the cost of a maintenance shop direct labor hour, and compare the fiscal year 1999 results with the fiscal year 1997 baseline. To develop the metric, the Audit Service collected cost and maintenance data from the consolidated facility and other activities. Navy officials said there is no decision on whether the metric value will be developed and used to measure the performance of the consolidated facility in fiscal year 2000.

Total Labor Hours Expended to Deliver a Maintenance Shop Direct Labor Hour Are Less Data for this metric indicate that delivering one direct maintenance hour in fiscal years 1999 and 2000 has taken fewer labor hours since the consolidation. For example, the Navy estimates that delivering a maintenance shop direct labor hour took 3.15 activity labor hours (overhead and direct maintenance hours) in fiscal year 1997, 3.03 hours in fiscal year 1999, and 3.06 hours through the middle of fiscal year 2000.

³ Post Consolidation Cost of Operations for the Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility, Auditor General of the Navy (2000-0400, Apr. 3, 2000).

Results for the Seven Other Metrics Are Inconclusive

The results of the following metrics are inconclusive because decisions and circumstances external to the consolidation have driven the results, the change in the overall performance was insignificant, or the data indicated both positive and negative results.

Total Current Ship Maintenance Program Work Items Completed

Although fewer Current Ship Maintenance Program work items were completed following the consolidation, the results of this metric are inconclusive because they were influenced by the decrease in the number of military personnel since the consolidation, the increased use of borrowed workers since the consolidation, and other factors unrelated to the consolidation. Furthermore, several Navy officials are concerned about using work items from the Current Ship Maintenance Program to measure the consolidation's success or failure because the work items vary in terms of labor hours and skills required repairing them. For example, work ranges from simple jobs (such as replacing a label or light bulb on a control panel) to complex jobs (such as overhauling a pump or nuclear valve). Additionally, the requirements to overhaul one pump differ from other overhauls depending on the problem and the type of pump. Prior to the consolidation, 19,777 work items were completed in fiscal year 1997 compared to 11,501 work items completed by the consolidated facility in fiscal year 1999. As of August, the completion rate for fiscal year 2000 was lower than in preceding years.

Although the consolidated facility was expected to maintain the same completion rate, several Navy officials believed this expectation was unreasonable because the number of military enlisted personnel decreased from 1,275 in October 1996 to 616 in April 1999. On the other hand, the increased use of borrowed workers from other naval shipyards since the consolidation has had a positive influence on the metric results. For example, the consolidated facility expended 82,785 borrowed labor hours more in fiscal year 1999 (a total of 129,293 borrowed labor hours) than in the baseline fiscal year 1997 (a total of 46,508 borrowed labor hours) before the consolidation. Furthermore, as of the end of May 2000, the consolidated facility had already expended 188,344 borrowed labor hours, far exceeding its fiscal years 1997 and 1999 use of borrowed workers. Although the Navy uses borrowed workers to balance total resources with workload among its shipyards, their addition to the workforce provided managers more flexibility in assigning personnel to work on the items and had a positive influence on the metric results.

According to Navy officials, because the consolidated facility was overloaded with work during fiscal year 1999, the facility had to ensure that at least the critical work was completed. Consequently, some Current Ship Maintenance Program work was designated as low priority and not accomplished, thereby impacting negatively on the results for this metric.

Total Current Ship Maintenance Program Work Items in the Backlog

Although the Current Ship Maintenance Program backlog was reduced following the consolidation, the results of this metric are inconclusive because of many of the same reasons discussed in the previous section. Historically, Navy officials have measured the material condition of their ships based on the number of backlogged Current Ship Maintenance Program work items: fewer backlogged items imply the ships are in better condition. Following the consolidation, the fiscal year 1997 backlog of 17,733 work items was reduced to 15,791 work items in fiscal year 1999 and to 14,279 work items at the end of July 2000. However, the Current Ship Maintenance Program backlog has been affected by the decrease in the number of military personnel and the increased use of borrowed workers since the consolidation. Furthermore, the following factors outside the direct influence of the consolidation affected the backlog:

- Decommissions of ships homeported at Pearl Harbor decreased the backlog by the number of work items recorded for the ships.
- Maintenance inspections increased the backlog by the number of unrecorded work items identified by the inspection team.
- Procedural changes in identifying and recording work items may increase or decrease the backlog depending on whether the changes weaken or strengthen the process.

Schedule Adherence of Chief of Naval Operations Maintenance Projects

Although the data for this metric indicate improvement following the consolidation, the results are inconclusive because the facility's ability to adhere to the work schedules established for Chief of Naval Operations maintenance projects was improved by the increased use of borrowed workers since the consolidation. Following the consolidation, the 11.4 percent late schedule adherence index achieved during fiscal year 1997 decreased to 8.6 percent late in fiscal year 1999—the lower percentile indicates that Chief of Naval Operations projects are being completed closer to their scheduled completion dates. However, because of the increased use of borrowed workers, it is possible to assign more workers to Chief of Naval Operations maintenance projects, which should result in more work completed and quicker completion of maintenance

projects. In essence, this increase in the maintenance workforce had a positive influence on the results for this metric.

As did the former Pearl Harbor shipyard, the consolidated facility has difficulties in completing long-term, complex Chief of Naval Operations ship maintenance projects (Depot Modernization Period)⁴ on schedule. For example, Pearl Harbor experienced a 9-month delay in completing a Chief of Naval Operations maintenance project (Depot Modernization Period) for the U.S.S. Chicago. ⁵ This delay caused slippages in the completion of other long-term Chief of Naval Operations projects because employees originally scheduled to work on succeeding projects were still committed to the U.S.S. Chicago. In addition, since the consolidation, Chief of Naval Operations projects must compete for workers with other Pacific Fleet maintenance priorities in Hawaii. Short-term Fleet maintenance projects and emergent repairs are given a higher priority in staffing decisions than longer, more complex maintenance projects. Approximately 25 percent of the consolidated facility's workload involve short-term Fleet maintenance projects or emergent repairs to operational surface ships and submarines. Prior to the consolidation, Chief of Naval Operations projects were completed by the former Pearl Harbor shipyard and did not compete for workers with short-term Fleet maintenance projects or emergent repairs, because they were performed by the former intermediate maintenance facility's workforce. According to Pearl Harbor officials, they are trying to improve their performance on long-term Chief of Naval Operations projects through better resource allocation procedures, process improvements, and resource sharing with other naval shipyards and, consequently, have reduced the time frame to complete recent long-term projects for the U.S.S. Key West and the U.S.S. Pasadena.

Rework Index for Chief of Naval Operations Maintenance Projects

Although the data for this metric show a slight degradation in rework quality from 0.76 percent in fiscal year 1997 to 1.08 percent in fiscal year 1999, these results are inconclusive because the quality of work did not deteriorate significantly as a result of the consolidation. According to the Navy, the purpose of this metric was to ensure that depot-level work

⁴ Depot Modernization Periods are maintenance projects that are notionally scheduled for 13 months and 140,000 labor days and are typically longer than other Chief of Naval Operations management projects completed at Pearl Harbor.

⁵ Starting on May 11, 1998, the maintenance project for the U.S.S. Chicago was scheduled for completion on May 11, 1999, but was actually completed on February 11, 2000.

completed by the consolidated facility did not deteriorate from the former shipyard's historical level of work quality. In its comments on a draft of this report, DOD stated that "successful performance" is indicated when there is no change in value of the metric between fiscal years. According to the Navy's contractors, no specific conclusions can be drawn from comparing fiscal year 1997 and fiscal year 1999 rework indexes because the change in the overall performance was insignificant. The Navy has not yet generated the rework figures for fiscal year 2000.

Activity Work Schedule Integrity Index

Although data for this metric indicate a slight improvement in performance, overall results are inconclusive because the data (1) indicated both positive and negative results depending on the type of maintenance work and (2) depended significantly on the reliability of time (labor hours) estimated to complete the work. The stated objective of this metric is to measure the consolidated facility's schedule integrity by comparing budgeted work scheduled (labor hours) with the actual amount of work performed (labor hours). The index decreased from 1.23 in fiscal year 1997 to 1.16 in fiscal year 1999, indicating a slight improvement in overall performance following the consolidation in fiscal year 1999. Additionally, the fiscal year 1999 data indicated improvement in two of the three types of maintenance projects analyzed. The index increased to 1.2 during the first 3 months of fiscal year 2000, indicating a slight degradation in overall performance since fiscal year 1999 but still a slight improvement over the fiscal year 1997 baseline. However, senior Navy officials said the metric is more of an indicator of efficiencies achieved by changes in maintenance procedures rather than efficiencies caused by the consolidation. There is nothing in the consolidation's design or structure that targeted maintenance procedures for improvement. According to the Navy's contractors, this metric should not be used to measure schedule integrity of the consolidated facility because it mixes schedule data with cost data, resulting in subjective data that are not accurate indicators of the facility's schedule integrity. The Navy has not generated the index for all of fiscal year 2000.

 $^{^{6}}$ Pearl Harbor Pilot Test: Analysis of Evaluation Metrics, American Management Systems, Inc., and PricewaterhouseCoopers LLP (Feb. 15, 2000).

 $^{^7}$ Pearl Harbor Pilot, American Management Systems, Inc., and Pricewaterhouse Coopers LLP (Feb. 15, 2000).

Casualty Reports Caused by Activity Work

Although the data for this metric indicate a slight degradation in performance following the consolidation, the results are inconclusive because the change in the overall performance was insignificant with respect to the consolidation's accomplishments and there was no clear relationship between the reports and the quality of work performed. According to the Navy, the purpose of this metric is to ensure that depotlevel work completed by the consolidated facility did not deteriorate as a result of the consolidation. It is based on an analysis of casualty reports that are filed by the ship after any equipment failure and, in some instances, identify maintenance work improperly performed by the consolidated facility.

In its comments on a draft of this report, DOD stated that the metric indicates "successful performance" when there is no change in value of the metric from the former shipyard's historical level of work quality. Although the number of reports identifying equipment failures relating to the maintenance work increased from two in the baseline fiscal year 1997 to four in fiscal year 1999 after the consolidation, these numbers are relatively insignificant considering that the consolidated facility repairs several hundreds of pieces of equipment annually. According to the Navy's contractors, the number of casualty reports related to depot-level work was insignificant before and after the consolidation, indicating that there was no major problems with the end quality of depot maintenance work completed at Pearl Harbor during both periods. However, the contractors questioned whether casualty reports are useful measurements because there was no clear relationship between the reports and the quality of work performed during a maintenance project. For example, because there are no standard procedures or methods for writing casualty reports, some reports did not explicitly identify the cause of the equipment failure. In other instances, the equipment failure identified in the casualty reports can be coincidental and unrelated to any work performed by the consolidated facility. The Navy has not yet reviewed the casualty reports for fiscal year 2000 to identify equipment failures caused by work improperly performed by the consolidated facility.

 $^{^{\}overline{8}}$ Pearl Harbor Pilot, American Management Systems, Inc., and Pricewaterhouse Coopers LLP (Feb. 15, 2000).

Earned Value

Results for this metric are inconclusive because the change in the overall performance was insignificant and the data indicated both positive and negative results depending on the work and ship type. To determine the earned value metric, labor hours to complete a unit of work in fiscal year 1997 are compared with hours to complete the same unit of work in fiscal year 1999 and later to measure the consolidation's effect on maintenance outputs. However, after the analysis was completed for fiscal year 1999, Navy and contractor officials concluded that the change in the overall performance based on this metric was insignificant. In addition, the supporting data for the metric, while indicating an overall decline in performance since the consolidation, showed both positive and negative results depending on the specific work and type of ship sampled. The 1999 data for submarines showed more labor hours were expended for four cost drivers⁹ and less for one cost driver compared to data for fiscal year 1997. The 1999 data for surface ships showed more labor hours were expended for one cost driver and less for two cost drivers compared to fiscal year 1997. The Navy has not explored the earned value metric for fiscal vear 2000.

Some Planned Benefits Have Yet to Be Achieved

The Navy has not moved the projected number of overhead workers to direct maintenance positions to increase productivity and has not consolidated all the industrial plant equipment as envisioned in the *Pilot Study Report*.

The consolidation did not result in the projected number of overhead workers moving to direct maintenance work—an important element in increasing the consolidated facility's productivity. To increase productivity, one of the stated goals of the Pearl Harbor consolidation was to increase the number of direct maintenance workers relative to the number of supervisors and overhead personnel without increasing costs. Logically, increasing the number of maintenance workers should result in increased maintenance. To accomplish this goal, the *Pilot Study Report* proposed that 95 civilian overhead workers be moved to positions in direct maintenance work; however, only four workers moved. According to Pacific Fleet and Pearl Harbor officials, moving civilians to such positions has been impractical because of (1) the time required for overhead workers

⁹ A cost driver is the quantity of ship maintenance work that represents a major or controlling portion of work on a particular ship maintenance project.

to become skilled, usually several years; (2) personnel regulations implementing the process for downgrades; and (3) potentially negative reaction by workers and employee representatives. In addition, several department directors and overhead supervisors said they were unwilling to release any personnel because of the increased workload due to changes in administrative and financial systems since the consolidation. Furthermore, other Navy officials said that efforts to move supervisors to direct maintenance resulted in too few supervisors, which led to problems in planning and coordinating work on maintenance projects. Pacific Fleet and Pearl Harbor officials believe that moving overhead workers to direct maintenance work is too difficult, and they believe this will not happen.

Industrial plant equipment has not been completely consolidated at integrated maintenance shops to improve maintenance operations, as suggested in the *Pilot Study Report*. Of the 271 items of industrial equipment at the former intermediate maintenance facility, 114 items were relocated, 132 items were mothballed, and 25 items were kept operational at their original location. According to Pearl Harbor officials, the removal and installation of the 114 relocated items cost little or nothing. Although many of the 132 mothballed items are in better condition and newer than the same type of equipment in the consolidated shops, the funding required to relocate the intermediate maintenance equipment has not been available. Most mothballed items are semipermanently attached heavy equipment that requires funding to remove, transport, and install elsewhere. Officials do not plan to request funding to move the equipment until after the pilot period because of budgetary constraints.

Conclusions and Recommendations for Executive Action, Agency Comments, and Matters for Congressional Consideration

Conclusions

Although OSD concurred with the intent of the recommendations in our 1999 report to resolve financial management issues and assure cost visibility, the Navy's consolidation of ship maintenance activities at Pearl Harbor has not yet shown that it can adequately identify and account for the total cost of operations or distinguish between depot and intermediate work performed by consolidated ship maintenance activities on an ongoing basis. Such data are needed to comply with the Statement of Federal Financial Accounting Standards No. 4 requirements for determining full cost of operations, which are intended to provide managers relevant and reliable data for making resource allocations, program modifications, and performance evaluations. Additionally, improved cost and performance data are needed to show compliance with 10 U.S.C. 2466, the Chief Financial Officers Act, and the Government Performance and Results Act. Although managers and workers performing ship maintenance and repairs at Pearl Harbor may not be directly affected, the lack of reliable cost and performance data impairs the ability of senior OSD and Navy officials to make timely, well-informed decisions to facilitate the effective and efficient management of the Navy's overall ship maintenance activities, the Pearl Harbor consolidation, and other potential consolidations of ship maintenance activities. More specifically, to provide senior OSD and Navy officials reliable cost and performance data to facilitate their decisionmaking process, the Navy needs to implement a method that includes appropriate costing methodologies or techniques that provide sufficient data to (1) adequately identify and account for the total cost of operations, (2) distinguish between depot and intermediate work performed by consolidated ship maintenance activities, and (3) show compliance with 10 U.S.C. 2466, the Chief Financial Officers Act, the Government Performance and Results Act, DOD regulations, and federal accounting standards.

Other consolidations of naval shipyards and intermediate maintenance activities are likely, even though little progress has been made since our prior report toward resolving OSD's and the Navy's differences over key issues related to the financial structure for the consolidation of ship maintenance activities at Pearl Harbor and for potential consolidations at other naval locations. Consequently, several outstanding financial issues still need to be resolved to facilitate effective and efficient ship maintenance operations at Pearl Harbor and other potential

¹ Depot Maintenance (GAO/NSIAD-99-199, Sept. 10, 1999).

Chapter 5
Conclusions and Recommendations for
Executive Action, Agency Comments, and
Matters for Congressional Consideration

consolidations. First, OSD and Navy officials differ over the appropriate amount the Navy should compensate the working capital fund when a naval shipyard leaves the fund. Because DOD regulations provide only general guidance governing the transfer of working capital fund organizations, more specific guidance is needed on the processes, procedures, and costing methodology to help resolve the Pearl Harbor dispute and prevent similar occurrences in other potential transfers of naval shipyards to direct appropriations. Second, officials differ over the potential impact of using direct appropriations on the consolidated facility's flexibility to, as are naval shipyards operating under the working capital fund, continue routine ship maintenance operations if potential funding gaps occur at the beginning of fiscal years or expected maintenance costs exceed annual appropriations. This needs to be addressed to determine whether steps are considered necessary to mitigate the risk of ship maintenance activities funded with direct appropriations not being able to continue routine operations during funding gaps at the beginning of fiscal years and funding shortfalls at the end of fiscal years. Third, officials still differ about whether funding levels under direct appropriations will be sufficient to maintain an adequate capital improvement program for the consolidated facility, because of uncertainties in competing with other Navy programs and priorities for funding during the budgeting and appropriations processes. This needs to be resolved to help assure that capital improvement programs for consolidated ship maintenance activities funded with direct appropriations receive proper funding.

Although the Pearl Harbor consolidation has made more effective use of workers and facilities in Hawaii, the data available for the test metrics up to now provide an inconclusive assessment of the consolidated facility's overall accomplishments in achieving greater efficiencies and lowering costs. Consequently, overall results of the metrics should not be used as the basis for making future consolidations of naval shipyards and intermediate maintenance activities. However, lessons learned from the metrics used in evaluating the Pearl Harbor consolidation should be useful in framing evaluation plans that would provide more conclusive data for future consolidations at other naval locations.

Recommendations for Executive Action

We recommend that before the Navy implements permanent changes at the Pearl Harbor facility and any other consolidations of naval shipyards and intermediate maintenance activities, the Secretary of Defense direct the Secretary of the Navy to implement a method to (1) account for the total

Chapter 5
Conclusions and Recommendations for
Executive Action, Agency Comments, and
Matters for Congressional Consideration

cost of consolidated ship maintenance operations on an ongoing basis and (2) distinguish between depot and intermediate work of consolidated ship maintenance activities. The method should include appropriate costing methodologies or techniques that provide sufficient data to show compliance with 10 U.S.C. 2466, the Chief Financial Officers Act, the Government Performance and Results Act, DOD regulations, and federal accounting standards.

To help prevent disputes in the transfer of working capital fund activities to direct appropriations, we recommend that the Secretary of Defense direct the Under Secretary of Defense (Comptroller/Chief Financial Officer) to clarify DOD financial management regulations, to include specifying the processes, procedures, and costing methodology, governing the transfers of working capital fund activities to direct appropriations.

We further recommend that before permanent changes are made at Pearl Harbor and any further consolidations are implemented at other naval locations, the Secretary of Defense direct the Under Secretary of Defense (Comptroller/Chief Financial Officer) and the Secretary of the Navy to resolve issues related to (1) buyout costs for the former Pearl Harbor shipyard if the Navy decides to formally transfer it to direct appropriations, (2) loss of flexibility to continue routine ship maintenance operations through potential funding gaps at the beginning of fiscal years or when expected maintenance costs exceed annual appropriations, and (3) funding for the capital improvement program for the consolidated facility.

We recommend that before the Navy consolidates additional shipyards and intermediate maintenance activities, the Secretary of Defense direct the Secretary of the Navy to 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 Comments and Our Evaluation

In its written comments on a draft of this report, DOD agreed with the report's recommendations. However, it did not indicate specific actions or milestones for resolving the financial issues first raised in our 1999 report on the Pearl Harbor consolidation.² As a result, we have added matters for

² Depot Maintenance (GAO/NSIAD-99-199, Sept. 10, 1999).

Chapter 5 Conclusions and Recommendations for Executive Action, Agency Comments, and Matters for Congressional Consideration

congressional consideration to help assure timely implementation of our recommendations for executive action.

Matters for Congressional Consideration

The Congress may wish to require the Secretary of the Navy to report the Navy's strategy and time frame for the implementation of a method to (1) account for the total cost of consolidated ship maintenance operations on an ongoing basis and (2) distinguish between depot and intermediate work of consolidated ship maintenance activities. In addition, the Congress may wish to require the Under Secretary of Defense (Comptroller/Chief Financial Officer) and the Secretary of the Navy to report their strategy and time frame for the resolution of issues related to (1) buyout costs for the transfer, (2) loss of flexibility to continue routine ship maintenance operations through potential funding gaps at the beginning of fiscal years or when expected maintenance costs exceed annual appropriations, and (3) funding for the facility's capital improvement program.

Objectives, Scope, and Methodology

As requested, we updated our prior assessment¹ to determine whether (1) the Navy has provided adequate cost visibility and accountability over consolidated ship maintenance activities at Pearl Harbor, (2) the Departments of Defense and the Navy have resolved other issues related to the financial structure for consolidations at Pearl Harbor and elsewhere, and (3) the consolidation has generated greater efficiency and lower costs for ship maintenance at Pearl Harbor. During our review, we obtained data and interviewed Office of the Secretary of Defense (OSD) and Navy officials, including those from the offices of the Under Secretary of Defense (Comptroller), the Deputy Under Secretary of Defense for Logistics, the Assistant Secretary of the Navy for Financial Management and Comptroller, the Chief of Naval Operations, the Naval Sea Systems Command, the Pacific Fleet, the Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility, the Puget Sound Naval Shipyard, and the Naval Audit Service. In addition, we interviewed officials of the Hawaii Federal Employees Metal Trades Council, the Ship Repair Association of Hawaii, and contractors involved in the management and assessment of the Pearl Harbor consolidation.

To determine whether the Navy has provided adequate cost visibility and accountability of consolidated ship maintenance activities in Hawaii, we documented the reasons the Navy selected direct appropriations and the consolidated facility's experience of operating under direct appropriations. Furthermore, we reviewed federal accounting standards; the Department of Defense (DOD) and the Navy financial management and reporting regulations; audit reports, including ours and those of the DOD Inspector General and the Naval Audit Service; financial and budget documents; and related documents and guidance. To discuss their views concerning the current level of cost visibility and reporting, changes since the consolidation, reasons for any changes, and what is considered adequate for ship maintenance activities, we met with comptroller officials from the offices of the Under Secretary of Defense (Comptroller), the Assistant Secretary of the Navy for Financial Management and Comptroller, the Naval Sea Systems Command, the Pacific Fleet, and the Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility. We also discussed the consolidated facility's ability to routinely and systematically accumulate and account for all ship maintenance costs and distinguish between depot and intermediate work. In addition, we interviewed ship maintenance

¹ Depot Maintenance (GAO/NSIAD-99-199, Sept. 10, 1999).

Appendix I Objectives, Scope, and Methodology

project superintendents to determine the level of cost visibility and accountability retained for projects prior to and since the consolidation.

To determine whether OSD and the Navy had resolved other issues related to the financial structure for consolidated ship maintenance activities at Pearl Harbor and elsewhere, we obtained and reviewed status reports and briefings, financial documents, related guidance, and regional maintenance and business plans. We interviewed OSD and Navy officials to discuss (1) financial issues that still need to be resolved to obtain the full benefit of the consolidation in Hawaii and similar consolidations in other Navy locations and (2) advantages and disadvantages of using direct appropriations, the Navy Working Capital Fund, or a combination of the two financial structures. To help assess the potential impact of removing the former Pearl Harbor shipyard and other naval shipyards from the fund, we identified and analyzed the percentage of revenues the former shipyard and the other shipyards contributed to the fund. We also collected data such as guidance and correspondence from and discussed the potential costs related to the transfer of naval shipyards to direct appropriations with Office of Management and Budget, OSD, and Navy officials. In addition, we collected data from and discussed with OSD and Navy officials the uncertainties related to using direct appropriations on consolidated ship maintenance activities throughout each fiscal year and between fiscal years. To assess the Navy's efforts to maintain the capital improvement program of the former Pearl Harbor shipyard for the consolidated facility since the consolidation, we collected Navy documents and correspondence, budget and financial data, memorandums of agreements that identify responsibilities, and other pertinent data and discussed the efforts with OSD and Navy officials.

To determine whether the consolidation has generated greater efficiency and lower costs for ship maintenance activities at Pearl Harbor, we reviewed several Navy reports, including the Pearl Harbor Pilot Test: Analysis of Evaluation Metrics² and the Pearl Harbor Regional Maintenance Pilot Lessons Learned; the Pearl Harbor pilot test plan; financial, budget, and human resources documents; Naval Audit Service capacity evaluation reports for fiscal years 1997, 1998, and 1999; and related documents and guidance. In addition, we reviewed the Pearl Harbor Pilot Study Report⁴ and other planning documents to identify maintenance processes and procedures that were expected to improve under the consolidation. To determine how well the consolidated facility was operating, we observed its operations and interviewed its commander, deputy commander, and officials from various departments, including the pilot office; business office; quality assurance office; human relations office; occupational safety, health, and environmental office; facilities and equipment maintenance shop; and comptroller shop. In addition, we interviewed Pacific Fleet officials and ship commanders (customers of the consolidated facility) to determine whether the facility's maintenance activities and services were comparable to those provided prior to the consolidation, to identify overall operational issues and concerns, and to assess the consolidation's impact on the material condition of their ships. In addition, we reviewed data on the integration of the workforce from two maintenance centers into a common pool, the reduction in maintenance infrastructure, and other planned efficiencies that had not been achieved, such as moving non-maintenance workers to direct maintenance work and consolidating the plant equipment. Furthermore, we interviewed Navy officials and collected data about the consolidated facility's apprentice and training programs and the morale of its managers and workers.

Where data were available for the test metrics, we compared the actual operational results for fiscal years 1999 and 2000 with the fiscal year 1997 baseline data and the Navy's expectations for the consolidation. When actual results did not meet expectations, we discussed the differences and the challenges in obtaining the full benefits of the consolidation with

² Pearl Harbor Pilot, prepared for Naval Sea Systems Command by American Management Systems, Inc., and PricewaterhouseCoopers LLP (Feb. 15, 2000).

³ Pearl Harbor Regional Maintenance Pilot Lessons Learned, prepared for Naval Sea Systems Command by a private contractor (June 9, 2000).

⁴ Pilot Study Report, Pearl Harbor Pilot Executive Steering Committee (Aug. 26, 1997).

Appendix I Objectives, Scope, and Methodology

officials from the offices of the Chief of Naval Operations, the Naval Sea Systems Command, the Commander-in-Chief Pacific Fleet, and the consolidated facility. We also interviewed OSD and Navy officials about the methodology of the test plan and the reliability of the data for each test metric. To obtain an understanding of the methodology and the data's reliability, we reviewed the process and data used to develop the fiscal year 1997 baseline and the fiscal years 1999 and 2000 test results, and on a selected basis, we traced the data to their original source documents. To identify decisions and circumstances outside the control or influence of the consolidated facility that affect metric results, we reviewed the use of borrowed workers from other naval shipyards, limitations of the measurements, and weaknesses in the data and discussed these factors with OSD and Navy officials involved in the consolidation.

To assess the Navy's response to the recommendations in our prior report, we reviewed the agency comments on the draft and final versions of our report, including comments from the offices of the Under Secretary Defense for Logistics, November 1, 1999; the Assistant Deputy Under Secretary of Defense for Maintenance Policy, Programs, and Resources, August 9, 2000; and the Deputy Director for Industrial Capability, Maintenance Policy, and Acquisition Logistics Division, Office of the Chief of Naval Operations, August 27, 1999. We also reviewed several DOD and Navy documents and reports including the Navy's Pearl Harbor Regional Maintenance Pilot Lessons Learned report; financial and budget documents; regional maintenance and business plans; and other data related to issues discussed in our prior report. To determine whether OSD and the Navy have resolved issues about the most appropriate mechanism to finance consolidated ship maintenance activities, we discussed these issues with officials from the offices of the Under Secretary of Defense (Comptroller), the Deputy Under Secretary of Defense for Logistics, the Assistant Secretary of the Navy for Financial Management and Comptroller, the Chief of Naval Operations, the Naval Sea Systems Command, the Pacific Fleet, and the consolidated facility. In addition, we compared the ship maintenance activities and conditions at Pearl Harbor with those found at the Puget Sound, Portsmouth, and Norfolk areas and discussed the potential impact of any differences on other consolidations with OSD and Navy officials.

Appendix I Objectives, Scope, and Methodology

In performing this review, we used the same budget and accounting systems, reports, and statistics OSD and the Navy use to manage and monitor their ship maintenance program. We did not independently determine the reliability of the reported financial information. Nonetheless, our recent testimony⁵ on the results of our audit of DOD's fiscal year 1999 financial statements have continued to demonstrate that the department does not have the systems and processes to reliably accumulate program costs.

We conducted our review from April through October 2000 in accordance with generally accepted government auditing standards.

⁵ Department of Defense: Progress in Financial Management Reform (GAO/T-AIMD/NSIAD-00-163, May 9, 2000).

Comments From the Department of Defense



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

DEC 7 2000

Mr. David R. Warren
Director, Defense Management Issues
National Security and International Affairs Division
U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Warren:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report "DEPOT MAINTENANCE: KEY FINANCIAL ISSUES FOR CONSOLIDATIONS AT PEARL HARBOR AND ELSEWHERE ARE STILL UNRESOLVED" (GAO CODE 709499) OSD CASE 3005, dated November 2, 2000.

The Department concurs with the recommendations contained in the GAO report. Technical comments are enclosed.

Sincerely,

Enclosure:

As stated

GAO DRAFT REPORT DATED NOVEMBER 2, 2000

(GAO CODE 709499) OSD CASE 3005

"DEPOT MAINTENANCE: KEY FINANCIAL ISSUES FOR CONSOLIDATIONS AT PEARL HARBOR AND ELSEWHERE ARE STILL UNRESOLVED"

DEPARTMENT OF DEFENSE COMMENTS TO THE GAO RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommended that before the Navy implements permanent changes at the Pearl Harbor facility and any other consolidations of naval shipyards and intermediate maintenance activities, the Secretary of Defense direct the Secretary of the Navy to implement a method to (1) account for the total cost of consolidated ship maintenance operations on an ongoing basis and (2) distinguish between depot and intermediate work of consolidated ship maintenance activities. (p. 15 & 49/GAO Draft Report).

DOD RESPONSE: Concur

RECOMMENDATION 2: To help prevent disputes in the transfer of working capital fund activities to direct appropriations, the GAO recommended that the Secretary of Defense direct the Under Secretary of Defense (Comptroller/Chief Financial Officer) to clarify the department's regulations, to include specifying the processes, procedures, and costing methodology governing the transfers of working capital fund activities to direct appropriations. (p. 15 & 49/GAO Draft Report)

DOD RESPONSE: Concur

RECOMMENDATION 3: The GAO recommended that before any naval shipyard is permanently transferred to direct appropriations, the Secretary of Defense direct the Under Secretary of Defense (Comptroller/Chief Financial Officer) and the Secretary of the Navy to resolve issues related to (1) buyout costs for the transfer, (2) the loss of flexibility to continue routine ship maintenance operations through potential funding gaps at the beginning of fiscal years or when expected maintenance costs exceed annual appropriations, and (3) funding for the facility's capital improvement programs. (p. 15 & 49 /GAO Draft Report)

DOD RESPONSE: Concur

RECOMMENDATION 4: The GAO recommended that before the Navy consolidates additional shipyards and intermediate maintenance activities, the Secretary of Defense direct the Secretary of the Navy to develop additional metrics to measure the efficiency and effectiveness of consolidated ship maintenance activities, drawing on lessons learned from the consolidation at Pearl Harbor. (p. 15 & 49/GAO Draft Report)

<u>DOD RESPONSE</u>: Concur. Future evaluations will draw upon lessons learned from the Pearl Harbor Pilot consolidations.

Now on pp.18 and 53.

Now on pp. 19 and 54.

Now on pp. 19 and 54.

Now on pp. 19 and 54.

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Staff Acknowledgments	In addition to those named above, Claudia Dickey, Dennis De Hart, Jean Orland, Bonita Oden, and John Brosnan made key contributions to this report.

Related GAO Products

Depot Maintenance: Future Year Estimates of Public and Private Workloads Are Likely to Change (GAO/NSIAD-00-69, Mar. 1, 2000).

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

Navy Ship Maintenance: Allocation of Ship Maintenance Work in the Norfolk, Virginia, Area (GAO/NSIAD-99-54, Feb. 24, 1999).

Defense Depot Maintenance: Public and Private Sector Workload Distribution Reporting Can Be Further Improved (GAO/NSIAD-98-175, July 23, 1998).

Defense Depot Maintenance: Contracting Approaches Should Address Workload Characteristics (GAO/NSIAD-98-130, June 15, 1998).

Defense Depot Maintenance: Use of Public-Private Partnering Arrangements (GAO/NSIAD-98-91, May 7, 1998).

Navy Ship Maintenance: Temporary Duty Assignments of Temporarily Excess Shipyard Personnel Are Reasonable (GAO/NSIAD-98-93, Apr. 21, 1998).

Public-Private Competitions: DOD's Additional Support for Combining Depot Workloads Contains Weaknesses (GAO/NSIAD-98-143, Apr. 17, 1998).

Defense Depot Maintenance: DOD Shifting More Workload for New Weapon Systems to the Private Sector (GAO/NSIAD-98-8, Mar. 31, 1998).

Public-Private Competitions: DOD's Determination to Combine Depot Workloads Is Not Adequately Supported (GAO/NSIAD-98-76, Jan. 20, 1998).

Defense Depot Maintenance: Information on Public and Private Sector Workload Allocations (GAO/NSIAD-98-41, Jan. 20, 1998).

Navy Regional Maintenance: Substantial Opportunities Exist to Build on Infrastructure Streamlining Progress (GAO/NSIAD-98-4, Nov. 13, 1997).

Navy Depot Maintenance: Privatizing Louisville Operations in Place Is Not Cost-Effective (GAO/NSIAD-97-52, July 31, 1997).

Related GAO Products

Defense Depot Maintenance: Challenges Facing DOD in Managing Working Capital Funds (GAO/T-NSIAD/AIMD-97-152, May 7, 1997).

Defense Depot Maintenance: Uncertainties and Challenges DOD Faces in Restructuring Its Depot Maintenance Program (GAO/T-NSIAD-97-112, May 1, 1997) and (GAO/T-NSIAD-97-111, Mar. 18, 1997).

Defense Outsourcing: Challenges Facing DOD as It Attempts to Save Billions in Infrastructure Costs (GAO/T-NSIAD-97-110, Mar. 12, 1997).

High-Risk Series: Defense Infrastructure (GAO/HR-97-7, Feb. 1997).

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