

December 1997

# FINANCIAL MANAGEMENT

## Issues to Be Considered by DOD in Developing Guidance for Disclosing Deferred Maintenance on Aircraft



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

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**Accounting and Information  
Management Division**

B-274836

December 30, 1997

The Honorable William J. Lynn, III  
The Under Secretary of Defense (Comptroller)

The Honorable Deborah P. Christie  
The Assistant Secretary of the Navy  
(Financial Management and Comptroller)

Recent laws have enhanced the legislative requirements to provide policymakers and agency program managers with more reliable financial information to formulate budgets, manage government programs, and help make difficult policy choices.<sup>1</sup> Recognizing the extent of incomplete and unreliable information on the cost and consequences of government programs and activities, these laws have made implementing new accounting standards and audited federal financial statements a priority. New federal financial accounting standards have been adopted to enhance federal financial statements by requiring that government agencies show the financial results of their entire operations and provide relevant information on their financial status. This report discusses one such requirement for valuable information related to deferred maintenance on mission assets.<sup>2</sup> The second in a series of reports on the Department of Defense's (DOD) implementation of this requirement, this report focuses on Navy aircraft.<sup>3</sup> We are not making recommendations in this report. Rather, we are identifying specific issues that need to be considered in carrying out the basic recommendation in our September 30, 1997, letter to expedite plans to implement the deferred maintenance standard.

Accurate reporting of deferred maintenance is important for key decisionmakers, such as the Congress, DOD, and Navy managers. Further, deferred maintenance applicable to mission assets, if reliably quantified and reported, can be an important performance indicator of mission asset condition (a key readiness factor), as well as an indicator of the proper functioning of maintenance and supply lines. While the existence of

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<sup>1</sup>The Chief Financial Officers Act of 1990, the Government Performance and Results Act of 1993, the Government Management Reform Act of 1994, and the Federal Financial Management Improvement Act of 1996.

<sup>2</sup>Statement of Federal Financial Accounting Standard No. 6, Accounting for Property, Plant, and Equipment, dated November 30, 1995, defines federal mission property, plant, and equipment as possessing certain characteristics related to (1) its use, such as having no expected nongovernmental uses, and (2) its useful life, such as a very high risk of being destroyed in use or premature obsolescence.

<sup>3</sup>See Financial Management: DOD Needs to Expedite Plans to Implement Deferred Maintenance Accounting Standard (GAO/AIMD-97-159R, September 30, 1997).

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deferred maintenance may indicate a need for additional resources for maintenance, such resources may already be available within the current funding of the military services.

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## Background

In October 1990, the Federal Accounting Standards Advisory Board (FASAB) was established by the Secretary of the Treasury, the Director of the Office of Management and Budget (OMB), and the Comptroller General of the United States to consider and recommend accounting standards to address the financial and budgetary information needs of the Congress, executive agencies, and other users of federal financial information. Using a due process and consensus building approach, the nine-member Board, which has since its formation included a member from DOD, recommends accounting standards for the federal government. Once FASAB recommends accounting standards, the Secretary of the Treasury, the Director of OMB, and the Comptroller General decide whether to adopt the recommended standards. If they are adopted, the standards are published as Statements of Federal Financial Accounting Standards (SFFAS) by OMB and GAO. In addition, the Federal Financial Management Improvement Act of 1996 as well as the Federal Managers' Financial Integrity Act of 1982, require federal agencies to implement and maintain financial management systems that will permit the preparation of financial statements that substantially comply with applicable federal accounting standards.

SFFAS No. 6, Accounting for Property, Plant, and Equipment, issued on November 30, 1995, requires the disclosure of deferred maintenance in agencies' financial statements for the fiscal year beginning October 1, 1997. SFFAS No. 6 defines deferred maintenance as "maintenance that was not performed when it should have been or was scheduled to be and which, therefore, is put off or delayed for a future period." It includes preventive maintenance and normal repairs, but excludes modifications or upgrades that are intended to expand the capacity of an asset. The deferred maintenance standard applies to all property, plant, and equipment, including mission assets—which will be reported on the supplementary stewardship report.<sup>4</sup> For DOD, mission assets, such as submarines, ships, aircraft, and combat vehicles, is a major category of property, plant, and equipment. In fiscal year 1996, DOD reported over \$590 billion in this asset category, of which over \$297 billion belonged to the Navy.

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<sup>4</sup>SFFAS No. 8, Supplementary Stewardship Reporting, requires the reporting of federal mission property, plant, and equipment on the supplementary stewardship report for the fiscal years beginning October 1, 1997. Prior to this standard, these assets were reported on the Statement of Financial Position.

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SFFAS No. 6 recognizes that there are many variables in estimating deferred maintenance amounts. For example, the standard acknowledges that determining the condition of the asset—condition rating—is a management function because different conditions might be considered acceptable by different entities as well as for different items of property, plant, and equipment held by the same entity. Amounts disclosed for deferred maintenance may be measured using condition assessment surveys<sup>5</sup> or life-cycle cost forecasts.<sup>6</sup> Therefore, SFFAS No. 6 provides flexibility for agencies' management to (1) determine the level of service and condition of the asset that are acceptable, (2) disclose deferred maintenance by major classes of assets, and (3) establish methods to estimate and report any material amounts of deferred maintenance.

SFFAS No. 6 also has an optional disclosure for stratifying between critical and noncritical amounts of maintenance needed to return each major class of asset to its acceptable operating condition. If management elects to disclose critical and noncritical amounts, the disclosure must include management's definition of these categories.

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## Results in Brief

The development of DOD and Navy policy and implementing guidance for deferred maintenance is essential to ensure consistent reporting among the military services and to facilitate the preparation of accurate DOD-wide financial statements, particularly since the new accounting standard provides extensive management flexibility in implementing the disclosure requirement. Navy officials stated that they were reluctant to develop procedures to implement the required accounting standard until DOD issues overall policy guidance. Our September 30, 1997, letter points out the need for accelerating DOD plans to issue implementing guidance to the military services.

DOD and Navy officials have expressed numerous views as to how to apply the deferred maintenance standard to aircraft. Since numerous views exist, we believe it is even more important for clear guidance to be developed. The opinions ranged from including only maintenance needed on grounded aircraft to including all maintenance needs identified during aircraft inspections. In formulating the DOD and Navy guidance, we believe

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<sup>5</sup>Condition assessment surveys are periodic inspections of property, plant, and equipment to determine their current condition and estimated cost to correct any deficiencies.

<sup>6</sup>Life-cycle costing is an acquisition or procurement technique that considers operating, maintenance, and other costs in addition to the acquisition cost of assets. Since it results in a forecast of maintenance expense, these forecasts may serve as a basis against which to compare actual maintenance expense and estimate deferred maintenance.

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key issues must be resolved to allow for consistent reporting within the Navy, among the military services, and from year to year, including (1) what constitutes acceptable operating condition in aircraft and (2) when unperformed maintenance on aircraft becomes deferred maintenance. In addition, DOD needs to address in its implementing guidance (1) whether the deferred maintenance standard should be applied to certain groups of assets, such as equipment (for example, aircraft engines) for which there is no current operational requirement, and (2) whether the reported deferred maintenance should differentiate between critical and noncritical and, if so, what constitutes critical.

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## Objective, Scope, and Methodology

The objective of our work was to provide information on specific issues to be considered in developing implementing guidance for disclosing deferred maintenance on aircraft. We reviewed financial and operational regulations and documentation related to managing and reporting on the aircraft maintenance process. The documentation we reviewed included fleet spreadsheets used to track depot maintenance requirements and execution by specific aircraft. We also reviewed Navy Comptroller budget documents as well as aircraft and engine maintenance databases. We discussed this information with officials of DOD and Navy headquarters and of various organizational levels within the Department of the Navy. While the deferred maintenance standard applies to all maintenance, this report addresses the aircraft depot level because (1) depot maintenance is the most complex and expensive and (2) all military services operate aircraft and experience deferred maintenance related to those assets. (See the following section for a discussion of the Navy aircraft maintenance process, including the levels of maintenance.) Navy officials provided the estimates of deferred depot-level maintenance presented in this report. We did not verify the accuracy and completeness of the data.

We conducted our review from August 1996 through August 1997 in accordance with generally accepted government auditing standards. We requested written comments on a draft of this report from the Secretary of Defense or his designee. The Principal Deputy Under Secretary of Defense provided us with written comments, which are discussed in the “Agency Comments” section and are reprinted in appendix I.

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## Navy Aircraft Maintenance Process

The Navy accomplishes maintenance at three levels: organizational, intermediate, and depot. Organizational-level maintenance is accomplished at the squadron level and consists of the removal and

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replacement of failed components and the cleaning, prevention, and correction of corrosion. For example, the squadron would remove and paint minor areas of corrosion on the exterior of the aircraft. Intermediate-level maintenance is accomplished by Navy personnel on board ships or stationed ashore at facilities dedicated to repairing components and assemblies on site. For example, the intermediate level would repair moderate corrosion to removable assemblies of the aircraft, such as the nose cone. Depot-level maintenance is performed at maintenance depots that are equipped to perform complete overhauls of the aircraft. The depots repair major corrosion problems and structural weakness throughout the airframe, such as repairing cracks in the fuselage.

Depot maintenance for aircraft is periodically done on airframes, engines, and other aircraft components. Generally, the engines, weapon systems, and other components of the aircraft are removed and replaced with other components when they need repair. The component needing repair is then sent to a depot or an intermediate repair facility, depending on the nature of the problem. Generally, the Navy identifies the airframes that will receive depot-level maintenance based on an inspection. The length of time an aircraft can operate between inspections—referred to as the operating period—is determined by a combination of variables, such as age of the aircraft and results of previous inspections. Usually, if an aircraft passes the inspection, it is allowed to fly an additional year.

Because it is very time-consuming and, therefore, expensive to disassemble an aircraft to completely inspect for corrosion, stress, or other problems requiring depot maintenance, inspection is done only of items considered key indicators of the overall condition of the aircraft. Points are awarded for defects observed. When an aircraft accumulates enough points, it “fails” and is identified as needing depot maintenance. Problems noted can range from minor, such as surface corrosion on upper exterior skin, to critical concerns, such as major corrosion on and around the right hand rudder cable pulley support bracket, which, if it were to break, would result in loss of aircraft control. When problems affecting flight safety are identified, the aircraft is grounded until the maintenance is done.

An aircraft that has accumulated enough points to fail the inspection, but whose individual problems do not affect flight safety, can continue flying until it reaches the end of its predetermined operating period. In addition, a grace period of 90 calendar days of flying beyond the predetermined

operating period is generally allowed for flexibility in scheduling and operational commitments. Since inspections can be done up to 6 months before the aircraft reaches the end of its operating period, a “failed” aircraft could conceivably fly for 9 months before having the depot maintenance work done. If depot maintenance has not begun on the aircraft by the end of its grace period, Navy regulations require that the aircraft be grounded.

Although problems may be identified with the aircraft during the inspection, the total points awarded for the defects may not be high enough to “fail” the aircraft and send it to the depot. These aircraft continue flying until the next scheduled inspection, usually another year.

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## Implementing Guidance Needed to Ensure Consistent and Timely Reporting of Deferred Maintenance

Neither DOD nor the Navy have developed implementing guidance for determining and disclosing deferred maintenance on financial statements. Navy officials said that they are reluctant to develop their procedures until DOD issues its guidance. As we reported in our September 30, 1997, letter, the guidance is important to ensure consistency among the military services and to facilitate the preparation of DOD-wide financial statements. We also stated that the guidance needs to be available as close to the beginning of the fiscal year as possible so that the military services have time to develop implementing procedures and accumulate the necessary data to ensure consistent DOD-wide implementation for fiscal year 1998. DOD guidance for applying the deferred maintenance definition to aircraft is essential to consistent reporting by all of the military services since each service operates aircraft.

We found that operations and comptroller officials from both DOD and the Navy have varying opinions concerning the nature of unperformed maintenance that should be reported as “deferred.” Inspections, a type of condition assessment, are a normal part of the management of the aircraft and provide a reasonable basis for estimating deferred maintenance; therefore, neither DOD nor Navy officials suggested using life-cycle costing (an estimation tool allowed in lieu of condition assessments in SFFAS No. 6 as previously described). The differences in opinions arise from various interpretations of how to apply the standard to the inspection and maintenance process.

The views on how to apply the deferred maintenance standard to the aircraft maintenance process ranged from considering only the work needed on grounded aircraft to estimating the cost of repairing all



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maintenance problems identified on all aircraft during inspection, whether the aircraft “failed” or not. At the end of fiscal year 1996 (the most recent year for which historical data are available), the Navy data would have supported reporting \$98 million for depot maintenance needed for grounded aircraft. While the Navy has no formal estimate for the cost of repairing all depot-level maintenance problems identified with the airframes during inspection, Navy officials believed that it would exceed \$200 million. This amount does not include depot-level maintenance for aircraft components.

Including only amounts for maintenance that needs to be done on grounded aircraft may not meet the intent of SFFAS No. 6. FASAB addressed the deferred maintenance issue because of widespread concern over the deteriorating condition of government-owned equipment. FASAB reported that the consequences of underfunding maintenance (increased safety hazards, poor service to the public, higher costs in the future, and inefficient operations) are often not immediately reported, and that the cost of the deferred maintenance is important to users of financial statements and key decisionmakers. Reporting only grounded aircraft would not disclose all of the costs that have been deferred until a future period.

Other views expressed by DOD and Navy officials of what should be reported as deferred maintenance fell between the two described previously. One view was to report only the maintenance needed on “failed aircraft” that had reached the operating period end date (estimated by Navy to be about \$163 million in fiscal year 1996). This would include grounded aircraft and aircraft still flying during the 90-day grace period; this is the amount reported in budget justification documents. Another view was to report the maintenance needed on all “failed” aircraft, regardless of the aircraft’s operating period end date (estimated by Navy to be \$196 million in fiscal year 1996).

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## Key Issues to Be Resolved

Implementing guidance is needed so that all military services consistently apply the deferred maintenance standard. As a result of the variations in the way the deferred maintenance standard can be applied to aircraft, DOD and the Navy must address a number of issues, including the following.

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- Acceptable asset condition - SFFAS No. 6 allows agencies to decide what “acceptable condition” means and what maintenance needs to be done to keep assets in that condition. Determining acceptable operating condition could include whether (1) the aircraft can perform all or only part of its mission, (2) the most important components of the aircraft function as intended, (3) the aircraft passes inspection using engineering specifications, (4) the aircraft meets specified readiness indicators, or (5) the aircraft meets some other relevant criteria determined by management. The determination may also be influenced by whether the aircraft is assigned to a deployed unit. One example of the acceptable operating condition issue is as follows. An F-14 aircraft’s primary mission is long-range intercept (air-to-air combat), but it also has strike capability (air-to-ground combat). The radar/fire control system has nodes that provide the capability for the aircraft to launch specific types of missiles and bombs. If the node that controls the aircraft’s ability to launch Phoenix missiles is not functioning properly, the aircraft does not have any air-to-ground capability, but can still fulfill its air-to-air mission using Sidewinder and/or Sparrow missiles. Therefore, the question is whether maintenance required on the node for the air-to-ground missiles should be reported as deferred maintenance since it supports the secondary mission.
  - Timing of deferred maintenance recognition - Generally, although the military services use different specific criteria to identify the aircraft and engines that will require depot maintenance, all three military services rely on the concept of a standard operating period. Sometimes the period is determined by flying hours and sometimes by elapsed time between inspections. Grace periods are frequently allowed so that operational or funding considerations can affect maintenance schedules. To ensure that meaningful, consistent data are provided, DOD and the military services need to decide which one of the many possible alternatives will be used to determine when maintenance needed but not performed is considered deferred. For example, an F-14 whose operating period ends September 30 could be inspected as early as March 31, 6 months prior to the end of the operating period. If it fails inspection but is not grounded immediately for safety reasons, it can continue to fly until December 29, the end of a 90-day grace period. The timing issue involves when the needed maintenance should be recognized as deferred—the date the operating period ends, the date the grace period ends, the date the maintenance needs are identified, the date the aircraft is grounded, or some other point in time.

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- Applicability of the reporting requirements - DOD and the military services need to determine whether deferred maintenance should be reported for assets that are not needed for current requirements. Further differences in opinion exist concerning what should be recognized as deferred maintenance for aircraft engines and other components. Since this aircraft equipment can be removed from the aircraft and replaced, the question arises as to whether the components waiting to be repaired at the depot should be included in deferred maintenance if no aircraft are currently in need of the component. For example, if a service reduces the number of aircraft it is flying but does not reduce the inventory of related engines, should it consider maintenance not done on the engines in excess of current requirements as deferred maintenance? Reporting the maintenance not performed on the engines as deferred would more accurately reflect the cost of restoring all reported assets to operating condition; however, it would also be reporting maintenance that is not currently needed.
  - Critical and noncritical deferred maintenance - If critical versus noncritical deferred maintenance is to be disclosed, such a disclosure must be consistent among the military services, and critical must be defined. For example, different kinds of maintenance needed—from preventive to urgent for continued operation—may be used to differentiate between critical and noncritical. Also, if DOD chooses to disclose deferred maintenance for all reported assets, including maintenance on assets exceeding current operating requirements, identifying the types of assets included in the deferred maintenance disclosure may be another way to differentiate between critical and noncritical.

Although our work focused on the depot level, the deferred maintenance standard applies to all maintenance that should have been done, regardless of where the maintenance should have taken place. Therefore, in addressing the issues in this report and others regarding deferred maintenance, all levels of maintenance must be considered.

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## Agency Comments

In comments on a draft of this report, the Department of Defense agreed that it must consider the key issues identified in the report as it develops implementing guidance and policy for reporting deferred maintenance.

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

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the House Committee on National Security, the Senate Committee on Governmental Affairs, and the House Committee on Government Reform and Oversight. We are also sending copies to the Director of the Office of Management and Budget, the Secretary of Defense, the Assistant Secretaries for Financial Management for the Air Force and Army, and the Acting Director of the Defense Finance and Accounting Service. Copies will be made available to others upon request.

Please contact me at (202) 512-9095 if you or your staffs have any questions concerning this report. Cleggett Funkhouser, Merle Courtney, Chris Rice, Rebecca Beale, and John Wren were major contributors to this report.

A handwritten signature in black ink, reading "Lisa G. Jacobson". The signature is written in a cursive, flowing style.

Lisa G. Jacobson  
Director, Defense Audits

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# Comments From the Department of Defense



COMPTROLLER

UNDER SECRETARY OF DEFENSE  
1100 DEFENSE PENTAGON  
WASHINGTON DC 20301-1100



DEC 1- 1997

Mr. Gene L. Dodaro  
Assistant Comptroller General  
Accounting and Information Management Division  
U.S. General Accounting Office  
Washington, DC 20548

Dear Mr. Dodaro:

This is the Department of Defense response to the General Accounting Office (GAO) draft report "FINANCIAL MANAGEMENT: Issues to be Considered by DoD in Developing Guidance for Disclosing Deferred Maintenance on Aircraft," dated November 5, 1997 (GAO Code 918884/OSD Case 1486).

The Department reviewed the draft report and agrees with the key issues that must be considered while the Department develops implementing policy and guidance for reporting deferred maintenance in accordance with the Statement of Federal Financial Accounting Standards No. 6, "Accounting for Property, Plant and Equipment."

The Department appreciates the opportunity to comment on the draft report.

Sincerely,

Alice C. Maroni  
Principal Deputy Under  
Secretary of Defense (Comptroller)



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