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Major Management Challenges and Program Risks

Department of Defense

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Accountability * Integrity * Reliability

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Comptroller General
of the United States

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

January 2001

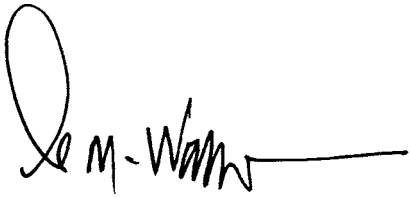
The President of the Senate
The Speaker of the House of Representatives

This report addresses the major performance and accountability challenges facing the Department of Defense (DOD) as it seeks to support and defend the Constitution of the United States; provide for the common defense of the nation, its citizens, and its allies; and protect and advance U.S. interests around the world. It includes a summary of actions that DOD has taken and that are under way to address these challenges. It also outlines further actions that GAO believes are needed. This analysis should help the new Congress and administration carry out their responsibilities and improve government for the benefit of the American people.

This report is part of a special series, first issued in January 1999, entitled the *Performance and Accountability Series: Major Management Challenges and Program Risks.* In that series, GAO advised the Congress that it planned to reassess the methodologies and criteria used to determine which federal government operations and functions should be highlighted and which should be designated as "high risk." GAO completed the assessment, considered comments provided on a publicly available exposure draft, and published its guidance document, *Determining Performance and Accountability Challenges and High Risks* (GAO-01-159SP), in November 2000.

This 2001 *Performance and Accountability Series* contains separate reports on 21 agencies—covering each cabinet department, most major independent

agencies, and the U.S. Postal Service. The series also includes a governmentwide perspective on performance and management challenges across the federal government. As a companion volume to this series, GAO is issuing an update on those government operations and programs that its work identified as "high risk" because of either their greater vulnerabilities to waste, fraud, abuse, and mismanagement or major challenges associated with their economy, efficiency, or effectiveness.



David M. Walker
Comptroller General
of the United States

Overview

The mission of the Department of Defense (DOD) is to support and defend the Constitution of the United States; provide for the common defense of the nation, its citizens, and its allies; and protect and advance U.S. interests around the world. Defense operations involve over $1 trillion in assets, budget authority of about $310 billion annually, and about 3 million military and civilian employees. Directing these operations represents one of the largest management challenges within the federal government.

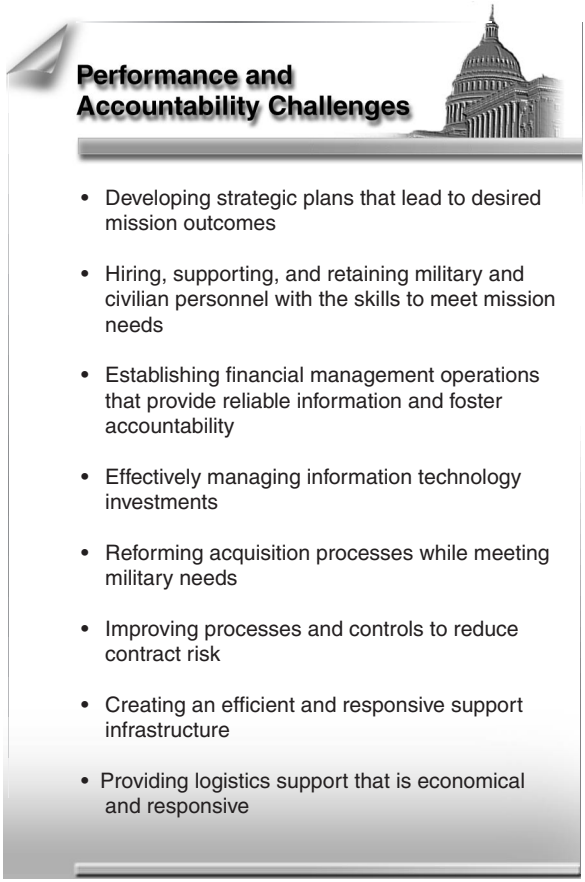
The United States begins the new millennium as the world's sole superpower with military forces second to none. The effectiveness of U.S. forces is well evidenced by experiences in the Persian Gulf, Bosnia, and Kosovo. However, the same level of excellence is not evident in many of the business processes that are critical to achieving the Department's mission in a reasonably economical, efficient, and effective manner. For many years, we and others have reported that a number of the Department's key business processes are inefficient and ineffective. More recently, we have also noted that support activities have not always been fully responsive in meeting the needs of military units. Adding to these concerns are human capital challenges in recruiting and retaining military personnel as well as ensuring that the civilian workforce is properly constituted in key areas, such as acquisition management. DOD's human capital problems can be seen as part of a broader pattern of human capital shortcomings that have eroded mission capabilities across the federal government. See our *High-Risk Series: An Update* (GAO-01-263, January 2001) for a discussion of human capital as a newly designated governmentwide high-risk area.

If these and related support problems are not addressed, inefficiencies will continue to make the cost of carrying out assigned missions unnecessarily high and, more important, increase the risk associated with those missions. Each dollar that is spent inefficiently is a

dollar that is unavailable to meet other internal Department priorities such as weapon system modernization and readiness.

To its credit, the Department has initiated a number of Department-wide reform initiatives and other actions to improve its key business processes in such areas as financial and information management, weapon systems acquisitions, and logistics reengineering. While these initiatives have produced some positive results, much more remains to be done before the reform process is successfully completed.

We have identified eight key interrelated areas that represent the Department's greatest challenges to developing world-class operations and activities to support its forces. We consider all or part of six areas relating to financial management, information technology, acquisitions, contracts, support infrastructure, and logistics to be high risk.



Strategic Planning Shortfalls

Sound strategic planning is needed to guide improvements to the Department's operations. Without it, decisionmakers and stakeholders may not have the information they need to ensure that the Department has strategies that are well thought-out for resolving ongoing problems, achieving its goals and objectives, and becoming more results oriented.

While the Department has improved its strategic planning process, its strategic plan is not tied to desired mission outcomes. As noted in several of the other key challenges, sound plans linked to the Department's overall strategic goals are critical to achieving needed reforms. Inefficiencies in the planning process have led to difficulties in assessing performance in areas such as combat readiness; support infrastructure reduction; force structure needs; and the matching of resources to program spending plans. We recommended that the Department include more qualitative and quantitative goals and measures in its annual performance plan and report to gauge progress toward achieving mission outcomes.

Human Capital Challenges

Given the large number of military and civilian personnel within the Department, human capital management represents a huge challenge that impacts virtually every activity. The Department is dealing with military personnel issues such as shortages of junior officers for the career force, problems in retaining certain skills (such as intelligence analysts, computer programmers, and pilots), and the military services' failure to meet recruiting goals. The Department also faces significant challenges in managing its civilian workforce. For example, the sizable reduction in civilian personnel since the end of the Cold War has led to an imbalance in age, skills, and experience that is jeopardizing certain acquisition and logistics capabilities within the Department. The Department has initiatives to address military and civilian human capital issues.

However, to guide individual initiatives and link them together, we recommended that the Department assess the relative success and cost effectiveness of the services' recruiting strategies and put tools in place for measuring success in reducing attrition. Also, in recent testimony, we noted that the Department should better

align its civilian human capital management with its strategic planning and core business practices.

Financial Operations Reforms

A key enabler to addressing the Department's diverse management challenges is accurate financial information to support decision-making, control costs and manage assets. While improved in recent years, financial management remains a high-risk area for the Department. To date, no major part of the Department's operations has passed the test of an independent financial audit because of pervasive weaknesses in the Department's financial management systems, operations, and controls. Also, despite genuine progress, ineffective asset accountability and lack of internal controls continue to adversely affect visibility over weapon systems and inventories. Further, unreliable cost and budget information negatively affect the Department's ability to effectively measure performance, reduce costs, and maintain adequate fund control.

As we recently testified, we are concerned that many of the planned financial management improvement initiatives are mainly focused on one-time, year-end numbers for financial statement purposes. As such, they will not result in the production of timely and reliable financial and performance information for ongoing use by management. In the short term, DOD needs to focus on improving its basic processes and controls needed to better manage its every day operations. In the long term, a sustained commitment from the highest levels of DOD leadership—a commitment that must extend to the next administration—will be needed to overhaul DOD's financial systems and to ensure that personnel throughout the Department share the common goal of establishing financial management systems and processes that routinely generate timely and reliable financial information.

Information Technology Challenges

Effective management of information technology is also key to implementing many of the Department's planned management reforms. However, significant management weaknesses in this area place the ultimate success of many reform initiatives at risk. Weaknesses in information technology management could seriously jeopardize operations and compromise the confidentiality, integrity, or availability of sensitive information. Effective systems modernization requires the Department to implement fundamental management controls, such as integrated enterprise architectures, disciplined investment management practices, and mature system development and acquisition processes that ensure mission performance and accountability.

However, this is not occurring on a systematic basis within the Department. For example, poor processes and management controls, in conjunction with ad hoc development of implementation plans and architectures, place information technology investments in electronic commerce and support systems at risk. Also, security for computer systems continues to pose concerns, since malicious attacks on these systems are an increasing threat to the nation's security.

The Department recognizes that improvements are needed in information technology management, such as comprehensive and integrated enterprise architectures to guide and direct its modernization efforts and structured and disciplined processes for selecting and controlling business technology options. Equally important, we have also recommended that the Department ensure that corrective actions are taken to address identified security vulnerabilities and more accurately and realistically define the responsibilities, mechanisms, and expected outcomes of its efforts to manage and integrate information assurance throughout the Department.

Acquisition Reform

Acquiring weapons for the military forces is central to accomplishing the Department's mission. However, the weapon systems acquisition process continues to be a high-risk area. Notwithstanding ongoing reform initiatives, the process is still too slow and costly. Pervasive problems persist regarding the process to acquire weapons; cost, schedule, and performance estimates; program affordability; and the use of high-risk acquisition strategies such as acquiring weapons based on optimistic assumptions about the maturity and availability of enabling technologies. Our work also shows that leading commercial firms are getting the kinds of outcomes from their development of new products that the Department seeks.

Specifically, these firms are developing increasingly sophisticated products in significantly less time and at lower cost than their predecessors. Valuable lessons can be learned from the commercial sector and applied to the development of weapon systems. Leading commercial firms expect that their program managers will deliver high quality products on time and within budget. We recommended that the Department apply these types of practices in its acquisition management processes.

Contract Management Reform

Closely related to the weapon systems acquisition process is the contracting for goods and services. This is also a high-risk area. Over the last few years, several broad-based changes, including the establishment of key metrics, have been made to acquisition and contracting processes and management to improve Department and contractor relationships and rules. But we and the Department of Defense Inspector General continue to identify risks in contracting, including (1) improving oversight and accountability in the acquisition of services, (2) preventing erroneous and improper payments being made to its contractors,

(3) implementing commercial practices for contract pricing, and (4) managing health care contracts.

Without effective control over its contract management activities, the Department will continue to risk erroneously paying contractors millions of dollars and perpetuating other financial management and accounting control problems. Weak systems and controls also leave the Department vulnerable to fraud and improper payment. We have testified that the application of commercial best practices, such as the use of more cost-effective buying strategies for commercial spare parts, can improve acquisition and contracting processes and help reduce contract risk.

Support Infrastructure Inefficiencies

Regarding specific operations challenges, the Department has to address inefficiencies in its support infrastructure. Again, while progress has been made in this area, more needs to be done if the Department expects to reduce infrastructure costs and improve business operations through its reform initiatives. After the Cold War, the defense force structure and military spending were reduced, and the Department realized it must make its operations and support infrastructure smaller, more efficient, and more responsive to warfighter needs and to create savings for other needs like weapons modernization. Although the Department has reduced its forces by about 25 percent and closed many bases, the percentage of its budget spent on support infrastructure has remained relatively constant. Because of continued inefficiencies in its support infrastructure, this continues as a high-risk area for the Department. The effectiveness of many civilian agencies has also been undermined by outmoded organizational structures that drain resources needed to make improvements to mission delivery capabilities. We recommended that the Department develop and implement a comprehensive, integrated, long-range plan

to sustain and fully implement its reform initiatives and also right-size and recapitalize its facilities infrastructure. Addressing facilities infrastructure will also require the Department to reach agreement with the Congress regarding the need for additional base realignment and closure rounds. The infrastructure problems in civilian agencies also suggest the possible relevance of a civilian facility closure and realignment process.

Logistics Support Inefficiencies

Providing economical and responsive logistics support is also central to achieving the Department's mission. While the system gets the job done, it is often described as a brute force process that is uneconomical and inefficient. Although the Department has progressed in improving logistics support, especially through the application of best inventory management practices, serious weaknesses persist throughout its logistics activities, and it is unclear to what extent its ongoing reengineering management improvement initiatives will overcome them. A key area of the logistics process that remains high risk is inventory management. The Department continues to spend more than necessary to procure and manage inventory. If this condition persists, the Department risks having key items, such as aircraft parts, not available when needed, which could impair aircraft and other equipment readiness. Again, sound integrated plans for achieving logistics reforms are central to making improvements.

To enhance DOD's reengineering efforts, we have recommended that DOD develop an overarching plan that integrates the individual service and defense agency logistics reengineering plans to include an investment strategy for funding reengineering initiatives and details for how DOD plans to achieve its final logistics system end state. We also recommended that DOD reassess its schedule for testing, evaluating, and implementing the

initiatives; establish a methodology showing the savings or improvements that come from reengineering concepts; and reassess its approach for addressing various combat command concerns, such as the presence of increasing numbers of contractor personnel on the battlefield. Also, to improve inventory management, we recommended that DOD make more use of supply-chain best management practices similar to those used in the private sector to help cut costs and improve customer service.

In conclusion, while the Department is making some progress toward improving its business support operations, sustaining such efforts in the Department in the past has proven to be elusive. The Department has a unique opportunity to address the management challenges discussed in this report because a Quadrennial Defense Review will occur in 2001. During the congressionally directed review, the Department examines America's current and future defense needs and produces a strategic plan and blueprint for a strategy-based, balanced, and affordable defense program. Since the next review is expected to be completed by September 2001, the Department has a timely and appropriate vehicle for also addressing the performance and accountability problems and recommended specific actions we highlight in this report.

Major Performance and Accountability Challenges

To accomplish its national security mission, the Department of Defense (DOD) maintains trained forces ready to respond to threats to U.S. security arising anywhere on the globe. DOD achieves its mission with a budget of about $310 billion, which is about 15 percent of the federal budget. DOD maintains a force of about 1.4 million active duty personnel, 1.28 million military guard and reserve personnel, and over 700,000 civilian personnel. DOD's military and civilian personnel are critical to achieving all of its performance goals. In addition to the Army, the Navy, the Air Force, the Marine Corps, the Office of the Secretary of Defense, and the Joint Chiefs of Staff, DOD manages 14 defense agencies such as the Defense Logistics Agency. DOD has a worldwide presence, with its 10 active Army divisions, 3 Marine expeditionary forces, 12 active Air Force fighter wings, 163 active bombers, 12 active aircraft carriers, 10 active naval air wings, 12 amphibious ready groups, 55 attack submarines, 108 active surface combatant ships, and reserve units, and with 247,000 of its troops and civilians overseas.

Because of the magnitude of its force structure, DOD faces many management challenges. This report summarizes ours and, where appropriate, the DOD Inspector General's findings and recommendations to address DOD's challenges in eight key areas. These challenges include systemic problems with management processes related to strategic planning, human capital, and financial and information management and specific problems related to acquisition reform, contracting processes, support infrastructure, and logistics reengineering. Also, our report addresses human capital as a specific management challenge and incorporates, where appropriate, human capital issues as they relate to specific management challenges, including financial management and contracting.

Developing Strategic Plans That Lead to Desired Mission Outcomes

Strategic planning that clearly lays out DOD's mission and goals and the resources needed, strategies to be followed, and assigned responsibilities for accomplishing the goals is crucial to fully focusing the Department's activities on achieving desired outcomes. However, inefficiencies in DOD's strategic planning process have led to difficulties in assessing the Department's performance in achieving mission outcomes, in meeting force structure needs, and planning the budget.

Challenges in Achieving Mission Outcomes

The Government Performance and Results Act of 1993 provides a framework for DOD and other federal agencies to achieve greater accountability in their programs and operations. Under the Results Act, DOD is to develop an annual performance plan to establish performance goals and measures covering a given fiscal year and directly link its longer-term strategic goals to day-to-day activities. Annual performance reports are to disclose the degree to which those performance goals were met. At the request of the Congress, DOD also performs the Quadrennial Defense Review (QDR), from which it draws its mission and vision statements and strategic goals. The next review will be undertaken during fiscal year 2001.

In June 2000, we reported on DOD's progress in Results Act reporting. While noting numerous efforts to improve its overall reporting,[1] we underscored the extent to which DOD has achieved some of its outcomes is not completely clear. There are five major expected

[1] We observed that DOD identified and discussed the roles of federal agencies in crosscutting activities, added more information on its efforts to ensure the credibility of its performance information, and included initial goals and performance measures for financial management.

outcomes that relate directly to DOD's performance plan. These are:

- U.S. forces are maintained at the levels planned in terms of divisions, aircraft carriers, etc., and provide the anticipated overseas presence.
- Combat readiness is maintained at desired levels.
- Planned levels for recruiting and retaining skilled military personnel are achieved.
- Goals toward transforming military forces for the future are met.
- Planned progress toward streamlining DOD's infrastructure, pursuing business practice reforms, and improving the acquisition process and management functions is accomplished.

The extent to which DOD has achieved some of these outcomes is not completely clear, in part, because its outcomes are complex and interrelated and may require a number of years to accomplish, and because DOD has not fully assessed its performance. Further, reported measures often have not addressed a cost-based efficiency aspect of performance, making it difficult to fully assess its efficiency and effectiveness. For example, DOD's combat readiness outcome is aimed at being ready to fight and win two major theater wars or to conduct multiple operations other than war. However, its performance report and plan do not clearly show what forces and performance are required to accomplish this and whether the outcome is being achieved. Also, the plan included measures for the level of combat forces, but not for support forces, although the report acknowledges support force shortfalls and discusses Army plans for correcting them. Further, DOD's performance report does not include efficiency measures based on cost for areas such as managing inventory and weapon system maintenance.

Planning to Better Meet Force Structure Demands

U.S. strategy requires military forces to be capable of executing a range of military operations, including major theater warfare, overseas presence, and a variety of smaller-scale contingencies, and responding to asymmetric threats. According to DOD, the ability to transition from smaller-scale contingency operations to warfighting remains a fundamental requirement for virtually every U.S. military unit. DOD has concluded that the same forces needed for war would be used for smaller-scale contingencies until they were needed to meet wartime requirements. Our work shows that DOD continues to be challenged in meeting certain needs for contingency operations and major theater warfare. For example, some unique capabilities are in high demand and repeatedly deployed. As DOD prepares to conduct the next QDR, it faces the significant challenge of determining and providing the right mix of forces to support the full spectrum of military operations with a force structure largely designed for major theater warfare.

Since the 1991 Persian Gulf War, U.S. forces have been involved in more than 50 contingency operations abroad. While the services have been able to provide the forces and assets necessary for these operations, our work shows that some unique capabilities have been in high demand. Such capabilities include Army divisions and civil affairs units, EA-6B aircraft used to suppress enemy air defenses and electronically jam enemy antiaircraft radar, specialized F-16 aircraft used to suppress enemy air defenses, and U-2 aircraft pilots. To fulfill contingency missions, military personnel deploy on a rotational basis from assigned home stations, and some have exceeded the services' deployment goals for the maximum number of days an individual should deploy in a 1-year period. DOD also faces challenges in transitioning forces from lesser operations to major theater wars. For example, redeploying forces committed to various regions would be difficult and

could seriously strain the services' mobility and support forces.

While DOD has taken some steps to better manage the availability of existing assets and made some adjustments in its forces, it has not identified what force might be best suited to meet the demands of the full spectrum of military operations. To relieve the stress of repeated deployments on active forces, DOD has taken or is planning actions such as increasing the size of certain units, tasking reserve forces to deploy overseas, converting certain reserve units from non-warfighting missions to warfighting support, spreading the burden of deployments over a larger part of the total force, and creating additional squadrons from existing aircraft.

DOD also has secondary missions to support other federal agencies that have placed demands upon its force structure. For example, DOD provides support to federal efforts involving counterterrorism, counternarcotics, and counterproliferation in support of the Departments of Justice and State. While these activities are not part of DOD's primary warfighting mission, a number of DOD units are engaged in them in a support role. Integrated, strategic planning is essential to ensure these activities are carried out effectively. However, DOD and other federal agencies have not adequately planned or coordinated these efforts.

DOD Employs Overly Optimistic Planning Assumptions in Its Budget Formulation

Since the mid-1980s, we have reported that DOD employs overly optimistic planning assumptions in its budget formulation. As a result, DOD has too many programs for the available dollars, which often leads to program instability, costly program stretch-outs, and program terminations. Moreover, optimistic planning makes defense priorities unclear because tough decisions and trade-offs between needs and wants are avoided. Until DOD presents realistic assumptions and plans in its future budgets, the Congress will lack the

accurate and realistic information it needs to properly exercise its decision-making and oversight.

In 2000, we reported that because the fiscal year 2001 program's projected cost was about $16 billion more than the cost projected for the same elements in the fiscal year 2000 program, DOD could not implement its operation and maintenance and procurement programs as planned. For example, although DOD planned to increase Defense Health Program funding by $615 million during 2001-05, DOD officials said the program needed an additional $6 billion through fiscal year 2005. Officials in the Office of the Secretary of Defense said that they work to make Defense Health Program funding projections realistic only for the current budget year and that they underfund the program in the outyears to free up funds for other defense programs. If DOD has to spend more money on the Defense Health Program than it budgeted for, it will need to shift funds from other accounts, thereby introducing risk that other programs will not be implemented as planned or that it will need to request additional budget authority.

Key Actions Needed

To help overcome inefficiencies in DOD's strategic planning processes and to promote more realistic budgeting, DOD must follow results-oriented management principles in performing the next Quadrennial Defense Review in 2001. To provide a clear picture of DOD's performance, we recommended that DOD include more qualitative and quantitative goals and measures in its performance plan and report to gauge progress toward achieving mission outcomes.

The QDR needs to have an explicit strategy for achieving its force structure goals. DOD should consider identifying force structure alternatives that might result in a better balance between forces required for smaller-scale contingency operations and major theater wars

and ensuring personnel levels are sufficient to support that force structure. DOD should also consider matching the strategies and programs that will be used to achieve the goals included in the QDR to projected available funding for defense. This process should help the Department modify and balance force structure and support infrastructure to meet today's requirements.

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Hiring, Supporting, and Retaining Military and Civilian Personnel With the Skills to Meet Mission Needs

Effective human capital management is key to ensuring the Department will have the right number of military and civilian personnel with the right skills to accomplish its mission. However, human capital management represents a huge challenge that impacts virtually every activity within the Department. DOD has decreased the level of military personnel by about 25 percent since 1992, creating skill imbalances in various areas. They have also encountered considerable difficulties in recent years in achieving its desired military end strength due to problems in recruiting and retaining personnel. At the same time, significant challenges exist for the management of its civilian workforce.

Also, since the end of the Cold War, DOD has significantly downsized its civilian workforce. The downsizing is expected to continue through 2005 and ultimately to result in a cumulative reduction of about 43 percent from 1989 levels. The increase in the average

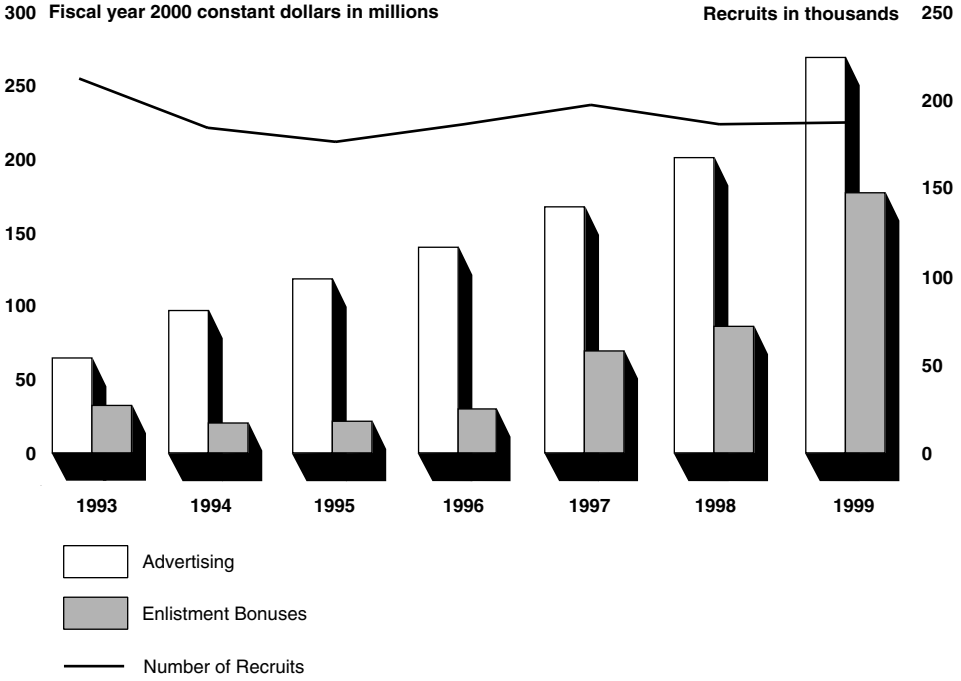
age of the remaining civilian workforce and a decline in the proportion of younger staff in the pipeline to fill future leadership roles signal potential problems down the road in such key areas as financial and contract management. While initiatives are under way to address both military and civilian human capital issues, much remains to be done.

Services Need to Assess Efforts to Meet Recruiting Goals and Cut Attrition

The Department of Defense faces a significant challenge in recruiting and retaining the hundreds of thousands of new recruits it enlists each year. The last 2 years, in particular, have been difficult for the military services, as they have struggled to meet their recruiting goals. This difficulty, which some believe represents a recruiting crisis, makes the services' problems with first-term attrition rates even more critical. The early separation of new recruits is costly in that the services' recruiting and training investment in each enlistee averages almost $38,000.

To address mounting problems in recruiting sufficient numbers of qualified enlisted personnel, three services—the Army, the Navy, and the Air Force—have increased their numbers of recruiters and their advertising budgets and have offered larger enlistment bonuses and more money for college. These tools have been shown by past research to help the services attract new recruits. However, as shown in figure 1, the resources devoted to recruiting have increased dramatically over the last 7 years, while the number of new recruits has stayed about the same.

Figure 1: DOD Expenditures for Advertising and Enlistment Bonuses Relative to the Number of Recruits (fiscal years 1993-99)



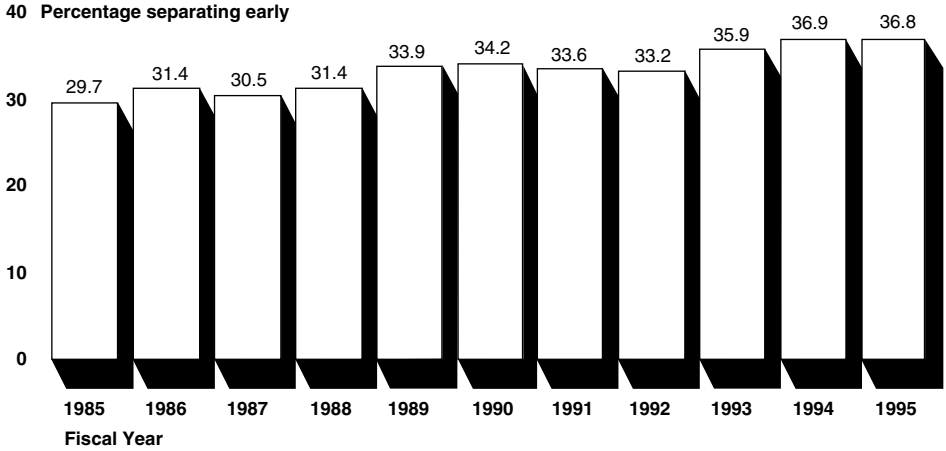
Source: DOD.

Because so little time has passed since the services began to respond to their recent recruiting problems, they cannot yet assess the long-term success of their efforts. Also, the services do not yet know which of their new recruiting initiatives work best. For example, the Navy does not know the extent to which each of the changes it has made to its recruiting program—increasing its number of recruiters, its advertising budget, or its enlistment bonuses—contributed toward meeting its goal in fiscal year 1999 and whether that strategy will work in the future. Until sufficient time has passed and each of the services consistently meets its

goal, DOD cannot be assured that individual service strategies will collectively enable DOD to meet its overall recruiting requirements.

To further address military personnel needs, the services have begun many efforts to reduce the attrition of first-term enlistees. For example, the services have taken steps to improve the screening of applicants before they enter the service. Efforts aimed at keeping recruits after they enter include providing extra attention to recruits struggling during basic training and disciplining and working with enlistees who have completed training and are experiencing minor behavioral problems. These actions appear promising, as they target recruits who might previously have been summarily discharged. Nonetheless, as shown in figure 2, the latest full 48-month attrition data available indicate that first-term attrition has reached all-time highs for DOD enlistees.

Figure 2: Trends in First-Term Enlisted Attrition



Source: DOD.

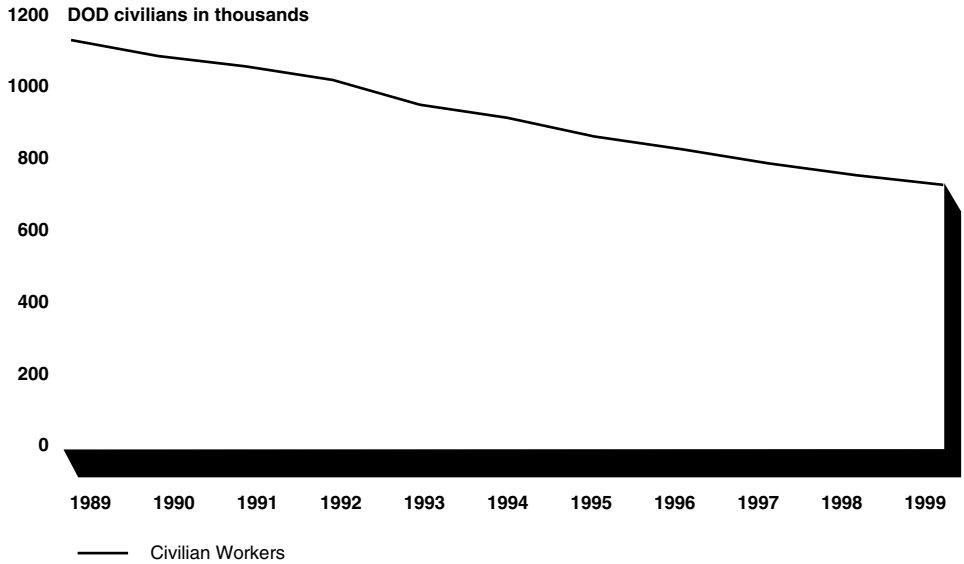
The attrition rate for enlistees entering the services in the mid- to late 1980s hovered between 30 and 34 percent, and this rate gradually rose in the 1990s from a low of 33 percent to a peak of nearly 37 percent for enlistees entering the services in fiscal years 1994 and 1995. Greater success in reducing attrition may not yet be apparent because the services have just begun many of their efforts, or the continued high rate of attrition may indicate that without these efforts, the services' losses would be even higher. The services, however, are not developing tools needed to measure the long-term success of their efforts, thus limiting their ability to judge the effectiveness of those efforts in reducing attrition.

Significant Civilian Workforce Management Issues Exist

The Department of Defense employs over 700,000 civilians—some 37 percent of all nonpostal civilian federal workers. Because it is the largest employer of federal employees in the competitive civil service, how DOD approaches human capital management sends important signals about trends and expectations for federal employment across government. Moreover, the role that DOD's civilian workforce plays in support of our U.S. national security makes DOD's approach to managing its people a matter of fundamental public interest.

As shown in figure 3, DOD has undergone a sizable reduction in its civilian workforce since the end of the Cold War, and additional reductions are expected at least through fiscal year 2005. Between fiscal year 1989 and 1999, DOD reduced its civilian workforce by about 400,000 positions, from approximately 1,117,000 to 714,000—a 36-percent reduction. The President's fiscal year 2001 budget request projected additional reductions in DOD's civilian workforce, to a level of 637,500 by fiscal year 2005—a cumulative reduction of nearly 43 percent from the fiscal year 1989 level.

Figure 3: DOD Civilian Workforce Trends (fiscal years 1989-99)



Source: DOD.

DOD's approach to civilian downsizing in the early years relied primarily on voluntary attrition and retirements and varying freezes on hiring authority. DOD also used existing authority for early retirements to encourage voluntary separations at activities facing major reductions in force. The fiscal year 1993 National Defense Authorization Act authorized a number of transition assistance programs for civilian employees, including financial separation incentives, or "buyouts," to induce the voluntary separation of civilian employees and reduce authorized positions. DOD has credited the use of separation incentives, early retirement authority, and various job placement opportunities to enable it to avoid nearly 200,000 involuntary demotions and separations.

While the tools available to DOD to manage its civilian force downsizing helped mitigate the adverse effects of force reductions, DOD's approach to the reductions was not oriented toward shaping the makeup of the workforce. During our work on the early phases of the DOD downsizing, some DOD officials voiced concerns about what was perceived to be a lack of attention to identifying and maintaining a balanced basic level of skills needed to maintain in-house capabilities as part of the defense industrial base. These concerns remain today and are heightened by DOD's increased emphasis on competitively sourcing many of its functions.

DOD leaders recognize that agencies have balanced their programs and budgets without fully considering the severe problems looming in the area of civilian personnel management or the need for increased attention to the problem. To address some of these challenges, DOD has recently outlined a number of actions, such as (1) fully executing hiring authorizations (with targeted overhiring), (2) expanding training and education through the Defense Acquisition University, and (3) improving marketing and recruitment. The Department has also noted the need for renewed emphasis on apprenticeship programs to reinvigorate workforce capabilities in its industrial activities and for a comprehensive strategic plan for its acquisition workforce. DOD also could benefit from provisions of the Congress' recent enactment of the Fiscal Year 2001 Floyd D. Spence National Defense Authorization Act, which permits DOD to use separation incentives to help shape its workforce without requiring that affected positions be eliminated. It also authorizes federal agencies to pay off college loans of students who agree to work for the government.

Key Actions Needed

As we have recommended, DOD needs to (1) assess the relative success and cost-effectiveness of the services' recruiting strategies in meeting DOD's overall needs by

applying one service's best practices to the other services whenever possible and by minimizing cross-service competition and (2) put in place tools for measuring the long-term success of the services' attempts to reduce attrition by confirming that the services' short-term remedial efforts are not simply delaying attrition to later points in enlistees' first terms. DOD is working to achieve these actions.

As we noted in recent testimony, taking an integrated, strategic view of the Department's approach to civilian human capital and using a measurement tool, such as our human capital self-assessment checklist for agency leaders, will be important to DOD to improve the alignment of its human capital management with its strategic planning and core business practices. Additionally, to ensure the total integration of human capital resources throughout the Department, DOD needs a human resources plan that links clearly to the Department's organizational goals and one which is integrated with the Department's overall mission emphasis on strategic planning to ensure concerted and sustained emphasis on addressing human capital issues.

Shortcomings discussed in the following sections on financial management, information technology, acquisitions, and contracts are attributable in part to human capital issues. As such, a human capital plan as discussed in this section would require priority attention. For example, our work on best practices of recognized world-class financial organizations shows that for DOD to reach and maximize financial performance throughout the Department, it will need a strategic approach to human capital. Similarly, for its acquisition reforms to succeed in producing better outcomes, DOD will need a strategic approach to training its acquisition workforce on new practices, to include the provision of customized training targeted to specific needs.

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Establishing Financial Management Operations That Provide Reliable Information and Foster Accountability

Accurate financial information is crucial to making sound decisions and controlling assets so that the Department's mission and goals are efficiently and effectively accomplished. With DOD's vast operations, including an estimated $1 trillion in assets and reported liabilities and a reported net cost of operations of $378 billion in fiscal year 1999, effective asset accountability and reliable financial information are critical. The Department continues to confront pervasive and complex financial management problems that can seriously diminish the efficiency of the military services' support operations. Since 1995 DOD financial management has been on our list of high-risk areas vulnerable to waste, fraud, abuse, and mismanagement. The Department has made progress in a number of areas, both larger steps forward and smaller incremental improvements. As detailed in the following paragraphs, however, DOD has a long way to go to effectively address these problems.

Financial Reporting Continues to Be Inaccurate

No major part of DOD's operations has been able to pass the test of an independent financial audit. The most recent audits of DOD's financial statements—for fiscal year 1999—highlight ongoing financial management challenges that affect the development of accurate and complete financial information. If available, this information could provide useful perspectives to decisionmakers on such key areas as budget requests, performance measurement, and costs. For example, because of weaknesses in DOD's budget execution accounting, the Department does not know with certainty the amount of funding it has available.

These weaknesses include (1) an inability to reconcile an estimated $7 billion difference between its available fund balances and the Treasury's; (2) frequent adjustments of recorded payments between appropriation accounts—with nearly $1 of every $3 in fiscal year 1999 contract payments representing an adjustment; and (3) incorrect or unsupported obligations. In addition, DOD records show an estimated $1.6 billion of transactions held in suspense accounts at the end of fiscal year 1999. Until these suspended transactions are posted to the proper appropriation account, the Department will have little assurance that reported appropriation balances are correct. As we have testified, such information is essential for DOD and the Congress to determine if funds are available to reduce current funding requirements or to be reprogrammed to meet other critical program needs.

Also, we have testified that, while the Department reported the total net costs for its operations as $378 billion, it could not justify this amount. Areas in which DOD has been hampered by the lack of reliable information on the full cost of its programs include (1) accounting for the costs associated with functions studied for potential outsourcing under OMB Circular A-76, including a long-standing concern over how accurately DOD's in-house cost estimates reflect actual costs; (2) controlling and managing weapon system acquisition, operation, and disposal costs under its overall Defense Reform Initiative; and (3) long-standing problems in accumulating and reporting the cost data needed to help assess the economy and efficiency of its businesslike activities used to provide goods and services in support of the military services.

Environmental Liability Is Uncertain

DOD does not have an effective process in place to comprehensively and accurately report liabilities associated with its environmental and cleanup costs.

DOD has taken important steps to better recognize and report on these liabilities, increasing its reported estimated liabilities from $34 billion in its fiscal year 1998 financial statements to $80 billion in fiscal year 1999. As we have testified, more complete and accurate information on these liabilities would be an important factor in determining the timing of funding requests. However, the full magnitude and timing of these costs are not yet known because (1) DOD does not yet have a comprehensive inventory of all potential environmental and disposal liabilities, potentially excluding billions of dollars of costs associated with nonnuclear weapons, conventional munitions, and ongoing operations;
(2) estimates were not based on the consistent application of assumptions and methodologies, resulting in some cases in significantly different results across the services; and (3) support for the basis of reported cost estimates continues to be inadequate.

Accountability Over Equipment and Inventory Is Weak

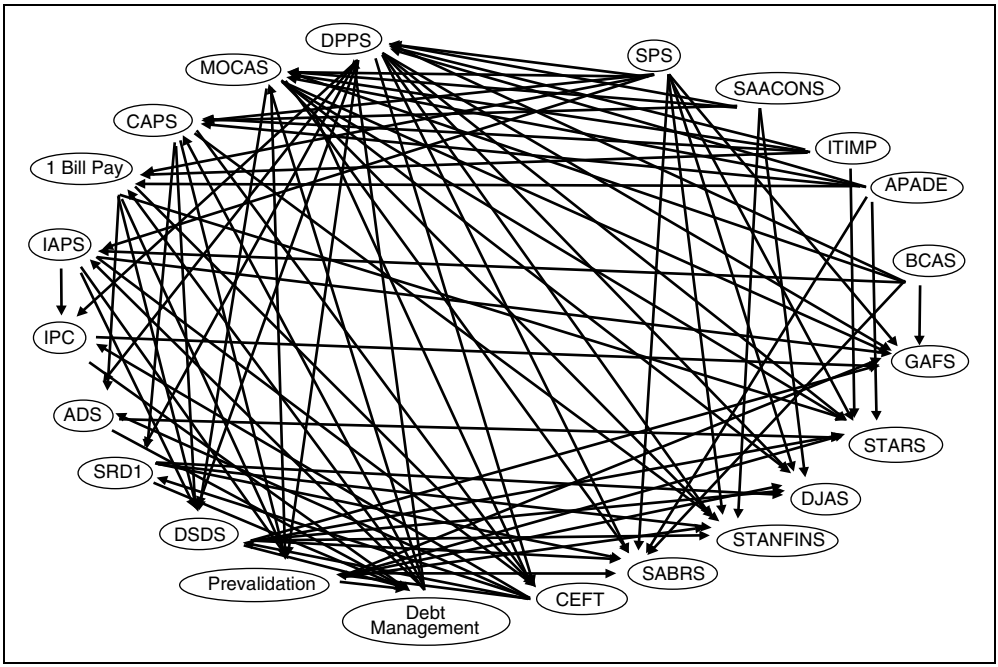
DOD cannot properly account for and report on its weapon systems and support equipment. Lacking such reliable information, DOD has little assurance that all items purchased are received and properly recorded. Because the military services cannot identify all of their weapon systems and support equipment through a centralized system, each service had to supplement its automated data with manual procedures to collect the information needed on these assets to meet military objectives and readiness goals. For example, items that were not included in the Army's centralized systems in fiscal year 1999 included 56 airplanes, 32 tanks, and 36 Javelin missile command-launch units. Additionally, DOD has also been unable to account for and control its huge investment in inventories. These weaknesses (1) increase the risk that responsible inventory item managers may request funds to obtain additional, unnecessary items that may be on hand but not reported

and (2) result in a loss of accountability that could affect supply responsiveness and purchase decisions.

Financial Management Systems Are Inadequate

Establishing an integrated financial management system—including both automated and manual processes—will be key to reforming DOD's financial management operations. DOD has acknowledged that its current financial management systems (1) are flawed with decades-old problems that will be impossible to reverse overnight, (2) for the most part do not comply with federal financial management systems requirements, and (3) were not designed to collect data in accordance with generally accepted accounting principles. The Department has set out an integrated financial management system goal. However, it faces a significant challenge in integrating its financial management systems because of its size and complexity and the condition of its current financial management operations. That is, DOD supports personnel on an estimated 500 bases in 137 countries and territories throughout the world, makes an estimated $24 billion in monthly disbursements, and maintains as many as 500 or more active appropriations in any given year. In addition, each service operates unique, nonstandard financial processes and systems. As a result, millions of transactions must be keyed and rekeyed into multiple systems. To illustrate the difficulty that DOD faces, figure 4 shows for one business area—contract and vendor payments—the number of financial systems involved and their interrelationships.

Figure 4: DOD's Current Systems Environment for the Contract and Vendor Payment Process



Source: DOD.

Transactions must be recorded using a complex line of accounting that accumulates appropriation, budget, and management information that varies by military service and fund type. An error in any one character in such a line of code can delay payment processing or affect the reliability of data used to support management and budget decisions.

Further, through the Year 2000 experience, DOD has learned that its goal of systems improvement initiatives should be improving end-to-end business processes. Lessons learned from the Year 2000 effort also stressed the importance of strong leadership from top leaders in making any goal—such as financial management and systems improvements—an entitywide priority. DOD's

current Financial Management Improvement Plan sets out an integrated financial management system as the long-term solution for establishing effective financial management and includes hundreds of initiatives to address its financial management problems. However, as we recently testified, the plan's vision and goals fell short of achieving basic financial management accountability and control and did not position DOD to adopt financial management best practices.

Key Actions Needed

Successfully completing efforts to prepare financial statements that can withstand the test of an audit will be a key milestone for DOD. Such audit efforts can help in better understanding the extent, nature, and underlying causes of the Department's long-standing financial management problems; identifying information needs; and strengthening fundamental discipline in its controls and systems. However, as we recently testified, we are concerned that many of the planned financial management improvement initiatives are mainly focused on one-time, year-end numbers for financial statement purposes. As such, they will not result in the production of timely and reliable financial and performance information. In the short term, DOD needs to focus on improving its routine processes and controls to manage its every day operations. However, in the long term, sustaining the strong commitment we have seen over the past few years from the highest levels of DOD leadership—a commitment that must extend to the next administration—will be needed to overhaul DOD's financial systems and to ensure that personnel throughout the Department share the common goal of establishing financial management systems and processes that routinely generate reliable financial information.

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Effectively Managing Information Technology Investments

Information technology management is a crucial enabler to DOD's efforts to accomplish its mission and achieve its goals. DOD invests about $20 billion annually in information technology (IT) to support a wide range of military business functions and operations (e.g., logistics, finance and accounting, and health services), and 10s of billions of dollars more on technology embedded in sophisticated weaponry. This heavy reliance will only grow as the Department moves to modernize and respond to technological advances that are changing traditional approaches to managing business functions and engaging in conflicts.[2] The effective management of system modernization efforts continues to challenge DOD and remains a high-risk area. At the same time, computer security and information accuracy are also key concerns.

[2] In our 1999 performance and accountability report series, we referred to this area as DOD information management and technology issues.

Effective Management of System Modernization Efforts Is a Continuing Challenge

The Department of Defense Appropriations Act for Fiscal Year 2000[3] reemphasized the need for the kind of IT implementation and oversight processes cited in the Clinger-Cohen Act of 1996. Among other things, the Appropriations Act calls for an IT investment oversight process that covers the life of each investment and includes explicit criteria for analyzing projects' expected and actual cost, benefits, and risks. Both our and the DOD Inspector General's reports have identified a broad array of problems that reinforce the need for these processes and management controls. Accordingly, we designated this area as high risk in 1995.[4]

The Department's vision of using electronic commerce technologies to transform and streamline its business processes and relationships is a vivid illustration of the problems and risks that DOD faces in this area. Specifically, as we reported, the Department's electronic commerce vision is at risk because key elements—a DOD-wide implementation plan, including an electronic commerce enterprise architecture(s)—have not been developed to direct and control business process change and IT investments in this area. Without these management controls, the Department does not have a common blueprint or roadmap that is essential for effectively introducing modern electronic commerce operations and investing in supporting systems.

DOD has not developed such a plan primarily because the DOD Chief Information Officer and the Joint Electronic Commerce Program Office have been unable to reach agreement with the military services and Defense agencies on the scope and content of such a plan. In lieu of a common and integrated approach, DOD

[3] P.L. 106-79, Oct. 25, 1999.

[4] In 1999, we referred to this high-risk area as DOD systems development and modernization efforts.

is allowing the joint program office, the military services, and three of the larger Defense agencies to develop separate plans. According to Chief Information Officer officials, the separate plans may then be merged into a DOD-wide plan at some point in the future. However, no specific commitment or date for doing this has been established. As a result, DOD components are addressing architecture development within their respective stovepiped organizations. Such an approach will not adequately support the Department's electronic commerce strategic objectives, such as achieving systems interoperability across the Department and streamlining its processes before implementing electronic commerce technologies.

In its 2000 annual report to the President and the Congress, DOD acknowledges that it needs to improve its IT management and oversight. The report notes that "DOD systems must transition from isolated stovepipe environments to a seamless and coherent infostructure." Additionally, the report cites steps under way to address its challenges in this regard, such as the creation of a Portfolio Management and Oversight Working-Level Integrated Product Team to ensure that IT investments are managed and evaluated based on specific measurable contributions to the Department's mission goals and priorities. Similarly, DOD has published a framework to guide the components' efforts in developing enterprise architectures and better ensure that they are defined consistently. Also, the Department's fiscal year 2001 performance plan, as required by the Government Performance and Results Act of 1993, includes performance goals for IT management. Such goals were not in place in fiscal year 1999.

Computer Security and Information Assurance Remain a Major Concern

Securing DOD's vast array of networked computers is a major challenge and an area fraught with risk, not just for DOD but for the federal government as a whole. Accordingly, we designated computer security as a governmentwide high-risk area in 1997 and it remains high risk today. In DOD, information security officials readily acknowledged that despite progress, DOD systems and networks continue to be more vulnerable than the Department would like. Of particular concern is what one official described as the "huge population" of unclassified networks in need of additional safeguards.

Evaluations of the security of the Department's systems have continued to identify weaknesses that could seriously jeopardize operations and compromise the confidentiality, integrity, or availability of sensitive information. In August 1999, we reported that serious weaknesses in DOD information security provided hackers and hundreds of thousands of unauthorized users the opportunity to modify, steal, inappropriately disclose, and destroy sensitive DOD data. These weaknesses impair DOD's ability to (1) control physical and electronic access to its systems and data; (2) ensure that software running on its systems is properly authorized, tested, and functioning as intended; (3) limit employees' ability to perform incompatible functions; and (4) resume operations in the event of a disaster.

Our August 1999 report also pointed out that while DOD had initiated some corrective actions in response to recommendations we made in May 1996, progress in correcting weaknesses identified in 1996 and in previous reviews had been inconsistent across DOD. Although many factors contribute to these weaknesses, DOD Inspector General and our audits found that poor management of security programs was an underlying cause of weaknesses in the protection of computer security. In August 1999, we reiterated this finding and

our recommendation that DOD take steps to strengthen Department-wide security program management.

DOD components are taking actions to correct security weaknesses. Further, DOD has been taking steps to improve the Department-wide security management. Notably, the Department has established the (1) DOD-wide Information Assurance Program under the jurisdiction of the DOD CIO and (2) Joint Task Force for Computer Network Defense to monitor DOD computer networks and defend against hacker attacks and other unauthorized access.

Key Actions Needed

As we have previously testified, DOD's recognition that improvements are needed in IT management is a positive step. Equally important will be the application of lessons learned from DOD Year 2000 success, such as obtaining the unwavering commitment of the Deputy Secretary of Defense to have comprehensive and integrated enterprise architectures to guide and direct DOD's modernization efforts and following structured and disciplined institutional processes for continuous selection and control of the competing business and technology investment options.

In this regard, in the area of electronic commerce, we recommended that DOD place a high priority on completing an electronic commerce implementation plan; finish an electronic commerce architecture; establish clearer lines of program management responsibility, authority, and accountability; and ensure that all new electronic commerce initiatives support the Department's strategic goals and have meaningful performance measures.

To strengthen departmental security program measures, we recommended that DOD implement more effective measures for ensuring that corrective actions are taken

to address identified security vulnerabilities and more accurately and realistically define the responsibilities, mechanisms, and expected outcomes of DOD's efforts to manage and integrate information assurance throughout the Department.

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Reforming Acquisition Processes While Meeting Military Needs

Acquiring weapons for the military forces is central to accomplishing the Department's mission. DOD spends close to $100 billion annually to research, develop, and acquire weapon systems. Although the Department has many acquisition reform initiatives in process, pervasive problems persist regarding (1) questionable requirements and solutions that are not the most cost-effective available; (2) unrealistic cost, schedule, and performance estimates; (3) questionable program affordability relative to competing wants and needs; and (4) the use of high-risk acquisition strategies. While these problems have proven resistant to reform, the best practices employed by leading commercial firms to develop new products offer different and promising solutions. We have reported that weapon systems acquisition is a high-risk area since 1990, and it remains on our high-risk list.

Requirements and Solutions That Are Questionable and Not Cost-Effective

DOD acquisition policies require analyses of missions, mission needs, costs, and weapon system alternatives to ensure that cost-effective solutions are matched to valid needs before substantial resources are committed to a particular program. However, we have found that while the services conduct considerable analyses in justifying major acquisitions, these analyses can be narrowly focused, without full consideration of alternative solutions, including the joint acquisition of systems with the other services. In addition, because DOD does not routinely develop information on joint mission needs and aggregate capabilities, it has little assurance that decisions to buy, modify, or retire systems are sound. Three examples of our findings follow:

- The Air Force and the Navy continued their plans to spend $5 billion acquiring 19,000 Joint Standoff Weapons even though the ability to use the weapon against moving and relocatable targets was significantly less than originally projected.
- Although average annual funding for space systems exceeds $6 billion, the U.S. Space Command's long-range plan and the Air Force Space Command's supporting strategic master plan do not fully conform to the Department's new space policy. The plans propose space systems only and do not provide for an assessment of the cost-effectiveness of terrestrial land, sea, and air systems as alternatives to space systems, which is called for in DOD policy.
- Although the F/A-18E/F met its key performance parameters, such as range and carrier suitability, the operational testers' comparisons of the F/A-18E/F to the F/A-18C showed that the former did not demonstrate superior operational performance. Instead, after comparing 18 operational mission areas such as interdiction and fighter escort, the testers concluded that the F/A-18E/F's operational mission effectiveness was essentially the same as the F/A-18C's. Such performance is disconcerting, given

that the F/A-18E/F costs nearly twice as much as the F/A-18C/D.

Unrealistic Cost, Schedule, and Performance Estimates

We continue to find that the desire of program sponsors to keep cost estimates as low as possible and to present attractive milestone schedules encourages the use of unreasonable assumptions about the pace and magnitude of the technical effort, material costs, production rates, savings from competition, and other factors. For example:

- Some F-22 development activities have been deferred, reduced, or eliminated in order to maintain the aircraft program's development costs within the congressional cost limitation.
- The Army's Theater High Altitude Area Defense Program's compressed flight-test schedule did not allow for adequate ground testing, and as a result, officials could not detect problems prior to flight tests. The schedule also left insufficient time for preflight testing, post-flight analysis, and corrective actions.
- The original schedule for developing the Joint Air-to-Surface Standoff Missile was ambitiously set at about half of what previous missile programs required. The schedule was later delayed by 22 months, and total program costs increased by $500 million.

Questionable Program Affordability

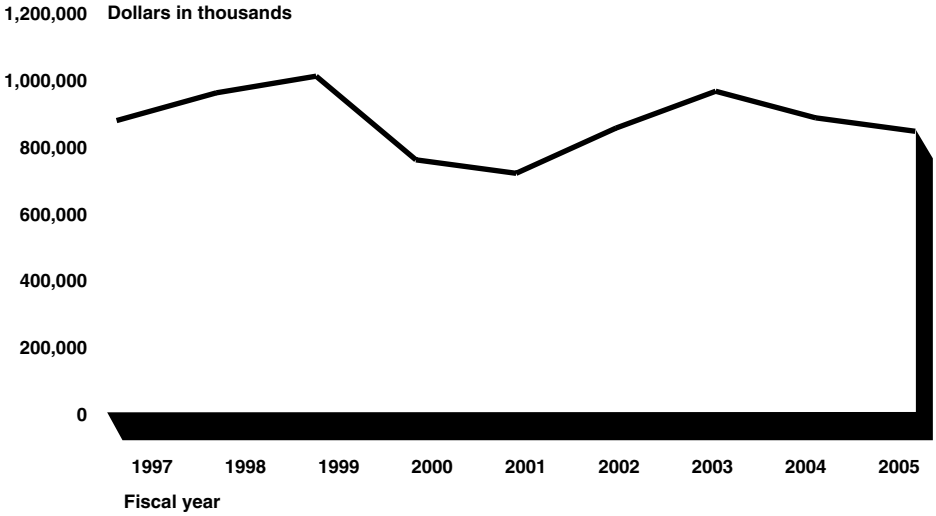
Each year for the past several years, we have reported that DOD's spending plans could not be executed with available funds. We continue to find and report on numerous problems with DOD's budgeting and spending practices for weapon system acquisitions, suggesting that wants and needs are not being balanced with affordability limitations. For example, the availability of several billions of dollars in funding increases that the Air Force has projected for space system expansion is uncertain. The President and the Congress have not

agreed on overall funding increases to DOD for the first 6 years of the 18-year projection (fiscal years 2000-05). Additionally, for the last 12 years of the projection (fiscal years 2006-17), the Air Force relies on planned funding increases for program modernization without identifying funding sources, thus creating additional uncertainty and putting the expansion of space systems in jeopardy for affordability reasons.

Further, we reported that current planned procurement spending may be reduced to fund potential operations and maintenance shortfalls. Specifically, DOD's 2001 Future Years Defense Plan may have understated cost and overstated savings projections for operations and maintenance, which increases the risk that planned spending for procurement may be used to pay for operations and maintenance funding shortfalls.

As another example, there is a gap between the Army's stated requirements and DOD's planned missile procurements for the Patriot Advanced Capability-3 missile. Detailed analyses of the costs, benefits, or available alternatives for defending U.S. forces and assets are lacking. Such analyses are needed to allow decisionmakers in the Department and the Congress to make better decisions on the number of missiles to buy. We have also reported on similar issues regarding the vulnerability of surface ships, a concern expressed by Navy leaders, but that may not be reflected in the budget for ship self-defense programs. As shown in figure 5, for fiscal years 1997-2005, spending is relatively flat (fluctuating between $719 million and $1 billion), and associated research and development funding is projected to decline from about $517 million to about $218 million.

Figure 5: Total Ship Self-Defense Funding



Note: Funding does not include the costs of ship construction.

Source: Fiscal year 1999 and 2000 President's budgets.

Other examples include (1) mismatches between DOD's and the Navy's estimates for how much is needed to implement the Navy Theater-Wide Program, with DOD's funding at $282 million, considerably lower than the Navy's estimated needs at $567 million per year and (2) the Navy's need for a more comprehensive and consistent strategy for improving its ship self-defense capabilities. Previous plans have not included all affected ship classes, established priorities among ship classes, or consistently used a baseline from which to measure progress and set timelines for achieving desired improvements.

High-Risk Acquisition Strategies

In our previous high-risk reports, we stated that high-risk acquisition strategies—such as the acquisition of weapons based on optimistic assumptions about the maturity and availability of enabling technologies—were being based on the need to meet the threat and to reduce acquisition costs. We also reported on the high-risk practice of beginning production of a weapon system before development, testing, and evaluation are complete. Using highly concurrent strategies and rushing prematurely into production can lead to uninformed decisions about a weapon's demonstrated operational effectiveness and the purchase of systems that do not perform as intended, which ultimately result in lower-than-expected availability for operations and expensive modifications.

Nevertheless, DOD still begins production on many major and nonmajor weapons without first ensuring that the systems will meet critical performance requirements. Examples include:

- The Army plans to begin production of its Comanche helicopter before initial operational testing starts.
- The Army established an aggressive production shedule for an inexperienced contractor to produce its Family of Medium Tactical Vehicles, resulting in the contractor producing trucks that could not meet qualification and operational testing requirements.
- The Navy was moving toward a full-rate production decision on the MV-22 Osprey aircraft without having an appropriate level of confidence that the program would meet design parameters as well as cost and schedule objectives.
- DOD, citing the emerging missile threat from rogue nations, compressed the National Missile Defense program schedule by at least 4 years—making the program vulnerable to delays.

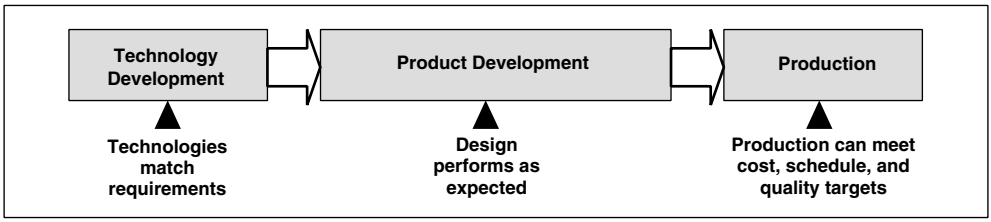
In addition to these examples, we have raised similar issues regarding the acquisition strategy for the Joint Strike Fighter Program and production of the Navy F/A-18E/F aircraft.

The Prospects for Change

After having performed hundreds of reviews of major weapon systems over the last 20 years, we have seen many of the same problems recur—cost increases, schedule delays, and performance shortfalls. These problems have proven resistant to reform in part because underlying incentives have not changed. On the other hand, our work also shows that leading commercial firms are getting the kinds of outcomes from their development of new products that DOD seeks. Specifically, these firms are developing increasingly sophisticated products in significantly less time and at lower cost than their predecessors. Valuable lessons can be learned from the commercial sector and applied to the development of weapon systems.

Leading commercial firms expect that their program managers will deliver high quality products on time and within budget. Doing otherwise could result in the customer's walking away, meaning failure for the product. Thus, these firms have created an environment and adopted practices that put their program managers in a good position to succeed in meeting these expectations. Key elements of this environment are deliberately short cycle times, assurance that technology is mature before starting a new product development, and use of a knowledge-based approach to managing product development. Commercial firms develop new products in well under 5 years, a number that continues to fall. Short cycle times help people stay focused on delivering the product and make them accountable for outcomes. Specific practices are embodied in a knowledge-based approach to product development that can be distilled into three cumulative knowledge points, depicted in figure 6.

Figure 6: Knowledge-based Process for Applying Best Practices to the Development of New Products



Source: GAO.

Product development in commercial ventures is a clearly defined undertaking that firms will not start unless they have the technology in hand to meet customers' needs. Leading firms do not ask their product managers to develop technology. The process of developing a product culminates in delivery and therefore gives great weight to design and production. The firms demand—and receive—specific knowledge about a new product before production begins. A program does not go forward unless a strong business case on which the program was originally justified continues to hold true. Such a knowledge-based process is essential to commercial firms' getting better cost, schedule, and performance outcomes. It enables decisionmakers to be reasonably certain about critical facets of the product under development when they need it.

DOD wants the kinds of outcomes commercial companies have achieved and has taken steps to reform its acquisition process to attain them. Examples include the recent revision of the 5000 series of acquisition guidance, which puts more emphasis on mature technology before a program is started and a more flexible requirements process that permits requirements to be met in stages. A few programs have exhibited some of these features in the early stages of development, including the Tactical and Global Hawk unmanned aerial

vehicles. It would be premature to interpret this progress as evidence that systemic change has occurred in DOD's acquisition process. Rather, such progress appears to be more the result of individuals' attempts to pioneer change through extraordinary effort.

The environment for DOD weapon system programs, particularly regarding the requirements setting, funding, and career management processes, encourages launching programs that embody more technical unknowns than commercial ventures and less knowledge about the performance and production risks they entail. The reason DOD programs are launched earlier is at least partly because establishing a formal program has been necessary to attract the funds needed to develop a new weapon system. As requirements are being set, a new weapon system is more likely to be funded if it possesses performance features that significantly distinguish it from other systems.

Consequently, DOD program managers have incentives to promote performance features and design characteristics that rely on immature technologies. To gain approval, program estimates are squeezed to fit into profiles of available funding. Additional requirements, such as high reliability, serve to make the fit even tighter. As competition for funding continues throughout the program, success becomes identified with the ability to secure the next installment. Other factors, such as the short tenures of program managers—relative to long development cycle times—and the unlikelihood that an unsatisfied customer will walk away, serve to make managers less accountable for delivering the product as promised.

Key Actions Needed

As we have recommended, DOD leadership could improve the acquisition of weapon systems by (1) routinely considering, in establishing weapon requirements, joint mission needs and aggregate

capabilities; (2) using more realistic assumptions in developing system cost, schedule, and performance requirements; (3) approving only those programs that can be fully executed within reasonable expectations of future funding; and (4) limiting the use of high-risk acquisition strategies.

Also, as we have recommended, taking these steps would require a better environment for starting and managing weapon system development programs. DOD leadership could help create such an environment by applying best commercial practices unless there is a clear and compelling national security reason not to. Such practices would enable DOD to (1) ensure that key technologies are mature before they are included in weapon system development programs; (2) set limits, such as 5 years for program development cycle times; and (3) adopt a knowledge-based approach to managing and making decisions on weapon system programs.

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Improving Processes and Controls to Reduce Contract Risk

DOD spent in excess of $130 billion in fiscal year 1999 for goods and services. Since 1992, we have reported DOD contract management as a high-risk area. It remains on our list of high-risk areas because DOD continues to experience significant challenges relating to contract management, including (1) improving oversight and accountability in the acquisition of services, (2) preventing erroneous and improper payments being made to its contractors, (3) implementing commercial practices for contract pricing, and (4) managing health care contracts.

Although contract management remains a high-risk area, DOD has made meaningful changes to improve the way it relates to contractors and the rules governing these relationships over the last few years. It also has attempted to measure select changes to its contracting processes by establishing key metrics, including (1) the percentage of purchases made by purchase card, (2) the percentage of paperless contracting and payment transactions, and (3) the percentage reduction in acquisition workforce personnel. However, while DOD reported it generally met these established metrics for last year, the metrics do not measure many of the significant challenges to improve processes and controls for reducing contract risk.

Improving Oversight and Accountability in Acquiring Services

DOD also faces challenges in addressing concerns about the lack of oversight and accountability in acquiring services. This is an area that must receive additional attention as DOD shifts to greater procurement of sophisticated services. DOD is presently changing what it buys and how it buys. For example, contracts for research and development, engineering, and various management support services make up a growing share of DOD's purchases. In fact, DOD now spends about $70 billion annually acquiring services from the private sector, and that number is expected to grow as DOD pursues efforts to contract with the private sector for many functions currently performed by DOD personnel.

We recently raised concerns that DOD has avoided competition when acquiring services, and the DOD Inspector General found that DOD had not adequately performed many basic management tasks, including market research, price analyses, and contractor surveillance.[5] Consequently, DOD seriously undermined its ability to ensure that it gets the best services at the best prices. Such concerns, in part, led the Congress to ask us to examine the practices of leading commercial companies and identify "best practices" that could yield benefits to DOD in acquiring services.

Both the Congress and DOD have taken steps to improve DOD's acquisition of services. For example, recently enacted legislation[6] requires that each military department establish at least one center of excellence for service contracting. These centers are intended to assist the acquisition community by identifying and serving as a clearinghouse on best practices in contracting for services in the public and private sectors.

For its part, DOD has targeted the increased use of performance-based service acquisitions as a high priority. In April 2000, DOD announced that it had established a goal that by 2005, 50 percent of all service acquisitions, measured in both dollars and actions, be based on performance. Each of the military services and the Defense Logistics Agency are to develop an implementation plan, while DOD committed itself to provide training, templates, and other tools to its acquisition workforce to help define, acquire, and

[5] *Contracts for Professional, Administrative, and Management Support Services* (Office of the Inspector General, Department of Defense, D-2000-100, Mar. 10, 2000) and *Contract Management: Not Following Procedures Undermines Best Pricing Under GSA's Schedule* (GAO-01-125, Nov. 28, 2000).

[6] *Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001* (P.L. 106-398, Oct. 30, 2000).

manage service requirements. While these initiatives should help DOD improve its acquisition of services, it may be several years before they are fully implemented and the impact on DOD's acquisition of services can be evaluated.

Fixing DOD's High-Risk Payment Systems Is Imperative

The need for DOD to achieve effective control over its payment process remains imperative. For fiscal years 1994-99, DOD reported that contractors returned nearly $5.3 billion. Of this amount, DOD's Defense Finance and Accounting Service erroneously paid $1.2 billion—as a result of errors such as paying the same invoice twice or misreading invoice amounts. Other payment errors can be attributed to problems with contract administration, such as the failure to adjust progress payments for changes in contract requirements or performance. Further, in its fiscal year 1999 financial statements, DOD reported $3.6 billion in uncollected debt that relates to a variety of contract payment problems. Of this amount, we determined that at least $225 million relates to duplicate payments, overpayments, and payments for goods not received, all of which we consider improper payments.

DOD payment errors can be attributed to complex regulations, long-term contracts, nonintegrated systems, and the manual entry of contract data into payment systems. In October 2000, we reported that DOD had not yet made a comprehensive estimate of improper payments made to its contractors, and there are likely more overpayments that have yet to be identified and returned. With an annual budget of over $130 billion in purchases involving contractors, DOD would benefit from estimating the magnitude of improper payments. As discussed in the financial management area, system deficiencies significantly contribute to improper payments.

In addition to improper payments, weak systems and internal controls can leave DOD vulnerable to fraud. In February 2000 testimony before the House Budget Committee, the DOD Deputy Inspector General stated that the finance and acquisition communities appear to be moving in opposite directions on contractor pay. He noted that while the finance community is attempting to improve controls over payments by taking measures such as rejecting vouchers with remittance addresses that are not in the Central Contractor Registry and may be suspect, some DOD acquisition officials believe that payments to contractors are not being made promptly enough, and they advocate making payments without any attempt to match invoices to receiving documents.

According to the DOD Inspector General, contractor payment processes remain vulnerable to fraud. As of September 30, 1999, the Defense Criminal Investigative Service had 85 open financial fraud cases. Moreover, as DOD's reliance on electronic payment methods increases, unresolved computer security weaknesses will impact its vulnerability to fraudulent contract payments.

Adjusting to Commercial Contract Pricing Practices

In recent years, DOD has significantly changed the way it acquires goods and services by removing what were considered barriers to efficient and effective use of the commercial marketplace. A major focus of these changes is the adoption of commercial buying practices. For example, for an increasing number of contracts for sole-source spare parts, DOD is transitioning from a cost-based pricing environment, in which contractor costs are the basis to negotiate prices, to a market-based or commercial pricing environment in which factors other than cost, such as pricing data, are the principal means used to determine the reasonableness of prices. While the level of commercial contracting remains relatively small compared to total DOD procurement, it is likely to increase substantially in the coming years.

Both we and the DOD Inspector General have found and recommended that DOD needs to strengthen its efforts to obtain fair and reasonable prices. For example, the Inspector General found that DOD needs to use more cost-effective buying strategies for commercial spare parts. The Inspector General noted that DOD was paying higher prices for some commercial spare parts than necessary. Our work also identified cases in which limited price analyses of commercially offered prices resulted in significantly higher prices than previously paid. DOD is taking steps to improve its workforce training in commercial buying and pricing. How well DOD's acquisition workforce will adjust to an environment with increased use of commercial pricing practices remains to be seen.

Managing DOD's Contracts for Health Care

DOD's difficulty in managing contracts is further illustrated in the implementation of its TRICARE health care program. TRICARE was established during a period of military downsizing and budget concerns to contain costs and maintain access to and the quality of health care for DOD's 8.2 million beneficiaries. To implement this program DOD awarded seven competitive 5-year contracts totaling about $15 billion.

Once these contracts were awarded, DOD made numerous and continuous changes to them through contract change orders. We reported that DOD had not developed a reliable estimate of the total federal liability for the contract changes and that DOD neither systematically reviewed the need for each order nor considered its likely costs and other effects. As of July 2000, over 500 change orders to the TRICARE contracts had not been settled and may represent a significant future liability to the Defense Health Program. To address this growing backlog DOD initiated a plan, called Mobilization, to settle all of its open change orders by December 2000. We are evaluating DOD's

progress in settling change orders and identifying improvements to the process.

Furthermore, in an effort to better control costs and improve health care contracting, DOD has initiated a broad review of TRICARE's operational structure. For the study, DOD will examine TRICARE's organization and business plans and will develop a revised procurement strategy. Whether DOD can successfully develop and launch the new procurement strategy and whether this new strategy will reduce the current volume of contract changes or control health care costs remain to be seen.

Key Actions Needed

As we have previously stated in testimony, the problems that we have identified are difficult ones and are deep-rooted in very large programs and organizations. There is much to be learned from the best practices of leading, high-performing private sector organizations that can be used to improve the acquisition and contracting process and controls to reduce contract risk. We testified that, when use of commercial best practices is determined to be appropriate, government agencies should adopt these practices unless compelling reasons exist for not doing so. To ensure that progress continues, sustained management attention and congressional oversight will be necessary.

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Creating an Efficient and Responsive Support Infrastructure

DOD also has to address the inefficiencies in its support infrastructure. Although the United States has significantly reduced its defense force structure and military spending since the end of the Cold War, it has not achieved commensurate reductions in operations and support infrastructure[7] costs. As the Department has sought to bring about a revolution in military affairs, it has realized that it must transform its support infrastructure to become leaner and more efficient to serve the warfighter faster, better, and cheaper. It also has realized that high priority needs such as weapons modernization can be fulfilled only with a large influx of infrastructure savings. While DOD has made some progress, it needs to do more to significantly reduce its infrastructure costs, and many obstacles remain. The effectiveness of many civilian agencies has also been undermined by outmoded organizational structures that drain resources needed to make improvements to mission delivery capabilities. Because of the difficulties associated with achieving these reductions and the potential for the continued waste of billions of dollars annually on inefficient and unneeded activities and facilities, we included defense infrastructure on our list of high-risk areas among federal agencies in 1997. It remains on that list.

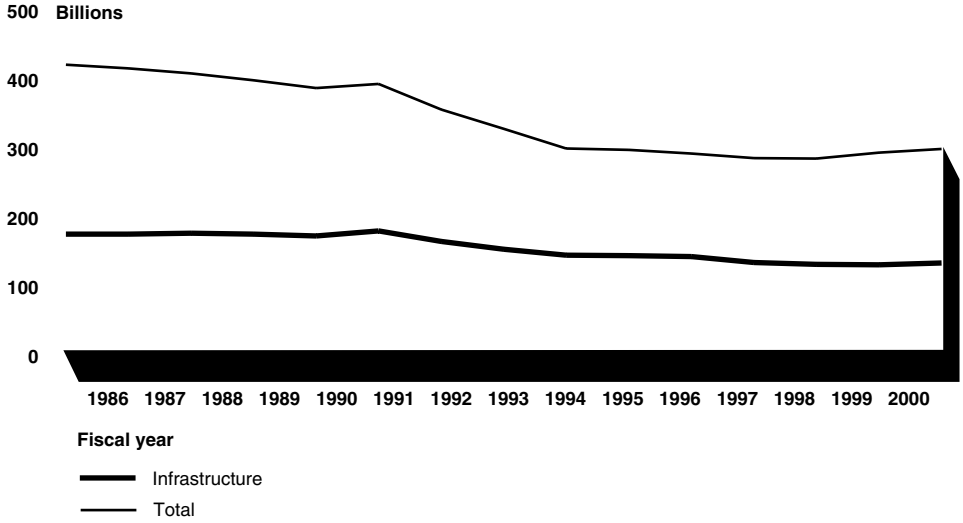
[7] DOD defines infrastructure as those activities that provide support services to mission programs, such as combat forces, and primarily operate from fixed locations. The activities include such program elements as installation support; acquisition infrastructure; central logistics; and central training, central medical, and personnel. In fiscal year 2001, approximately $33 billion of infrastructure costs are expected to be related to maintenance and upkeep of facilities across these program elements.

Infrastructure Costs Continue to Consume a Larger Than Necessary Portion of DOD's Budget

In our recent reviews of DOD's Future Years Defense Program (FYDP),[8] we did not find significant reductions in DOD's budgets devoted to its support infrastructure. For example, we reported in April 1996 that no significant net infrastructure reductions were expected between fiscal year 1996 and 2001. We noted that the proportion of planned infrastructure funding in DOD's budgets would remain relatively constant at about 60 percent through 2001. This is not to suggest that operating efficiencies and reductions have not occurred due to such efforts as base realignment and closure, consolidations, regionalization, privatization, and outsourcing efforts. However, our October 2000 analysis of the FYDP for fiscal years 2001-2005 showed that the portion of the FYDP devoted to direct infrastructure relative to mission has not changed, despite the expectations that it would. Figure 7 shows infrastructure funding as compared to the total Defense budget.

[8] The FYDP is the official document that summarizes the force levels and funding associated with specific programs that the Secretary of Defense would like the Congress to approve. The FYDP reflects decisions made in the DOD Planning, Programming, and Budgeting System, which is intended to produce the best possible mixture of forces, equipment, and support to accomplish DOD's mission. The FYDP presents estimated appropriation needs for the budget year for which funds are being requested from the Congress and at least the 4 years following it.

Figure 7: Direct Infrastructure Funding Versus the Total DOD Budget (fiscal years 1986-2000)



Source: OSD.

Additionally, while the Department's performance plan required by the Results Act includes as an outcome measure the percentage of DOD's budget spent on infrastructure, we recently reported that this measure is of limited value because the reliability of reported budget execution data is questionable and because the data do not reflect what the Department should be spending on infrastructure. The Department acknowledges that it has not been spending enough money to offset a growing backlog of facilities maintenance and repair projects. For example, the Department's September-October *2000 Monthly Readiness Report to the Congress* cited concerns about funding shortfalls in base operating support, real property maintenance, and military construction accounts. The Air Force noted that these accounts are inadequately funded, with infrastructure presently

funded for replacement at the 250-year point. This suggests that the Department needs to reduce its facilities infrastructure and requires balanced funding of the infrastructure it retains.

DOD Faces Significant Challenges in Planning for Reform and Infrastructure Reductions

The Defense Reform Initiative, announced by the Secretary of Defense in November 1997, was intended to improve the effectiveness and efficiency of DOD's business processes and support infrastructure. It represents a number of management initiatives, such as adopting best business practices; expanding the use of electronic commerce, logistics reengineering,[9] and public-private competitions (using the Office of Management and Budget's A-76 process);[10] and eliminating unneeded facilities infrastructure. The latter has included such actions as demolition of unneeded buildings, privatization of housing and utilities on military facilities, and a proposal for additional base realignment and closure rounds.

While the initiatives collectively offer the potential for significant long-term savings, the Department is not likely to quickly realize large-scale net savings from many of these initiatives because most individual initiatives are long-term efforts that require significant up-front investments to implement. Additionally, the major benefit from some of the initiatives involves cost avoidance such as avoiding upkeep of unneeded buildings and relying on private sector resources, rather than the government's, for needed capital investment for new housing and revitalized utilities.

[9] The issue of logistics restructuring is discussed later as a separate management challenge.

[10] Under A-76, agencies conduct public/private competitions to determine whether the public or private sector will perform selected commercial activities and functions.

In July 2000, we reported that only a few of the reform initiatives had been completed and that while most of the remaining initiatives were progressing, they faced barriers that could keep them from meeting specific time frames and goals. For example:

- DOD's program to evaluate activities involving over 200,000 positions for potential outsourcing is expected to result in estimated savings of $9.2 billion by 2005 and $2.8 billion in annual recurring savings thereafter. However, the savings are likely to be smaller than expected in the short term because of delays in completing the studies and because the Department had not fully calculated either the investment costs associated with these competitions or the personnel separation costs likely to be associated with them. The services have expressed concern about the reductions in their future operating budgets that have already been planned in anticipation of A-76 savings.
- DOD has encountered delays in its efforts to improve military family housing through private sector financing, ownership, operation, and maintenance. Almost 4 years after the program was initiated, the Department has awarded few contracts to build or renovate military family housing units. While the program offers an important opportunity to improve military housing at a faster rate than relying on traditional military construction methods, we have found that DOD's life-cycle cost analyses associated with its privatization efforts have been incomplete and inaccurate, and have overstated savings.
- DOD continues to emphasize that additional base realignment and closure rounds are necessary to reduce unneeded infrastructure and to free up funds for readiness, weapon modernization, and quality-of-life plans. The Secretary's position has been that the post-Cold War transformation of America's defense posture will not be complete until excess military bases and facilities are eliminated. The Reform

Initiative called for two additional rounds of base realignments and closures to supplement the four rounds conducted between 1988 and 1995. Additional base closures and A-76 studies are the two key initiatives for which the Department has projected savings from its Reform Initiative.

- The Department projects that additional base closure rounds could produce new savings of $3.4 billion a year once realignment and closure actions were completed and the costs of implementing these actions were offset by savings. However, because of issues related to economic impacts, cost and savings from prior rounds, and executive branch handling of two closure and realignment decisions in the 1995 round, the Congress has been reluctant to authorize additional rounds.

Key Actions Needed

As we have recommended, DOD needs to develop an integrated plan to better integrate, guide, and sustain the implementation of its diverse defense reform initiatives and an approach for assessing and making key investment decisions. Key reform initiatives, such as acquisition, financial management, and logistics reform, could be strengthened if addressed in an integrated fashion.

For its facilities infrastructure, DOD also needs to develop a comprehensive long-range facilities plan that addresses long-term facility needs, plans to upgrade or replace aging facilities, and plans for reversing the reported increasing work backlog involving facilities maintenance and repair. Development of such a plan could be significantly affected by DOD's ability to reach agreement with the Congress on the need for additional base realignment and closure rounds. The infrastructure problems in civilian agencies also suggest the possible relevance of a civilian facility closure and realignment process.

Despite limitations in the precision of DOD's estimates of savings from base closures, our prior work has shown that significant net annual recurring savings can be expected once initial investment costs have been offset. Legislation that was enacted in 1990 and which expired in 1995 has been seen by many officials as a starting point should the Congress decide it wants to authorize future base realignments and closure rounds.

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Providing Logistics Support That Is Economical and Responsive

Providing economical and responsive logistics support is central to DOD's achievement of its mission. However, while the logistics support system gets the job done, it is often described as a brute force process that is uneconomical and inefficient. In the past we have reported problems in DOD's depot maintenance programs, inventory systems, and distribution and transportation processes. Support costs have continued to increase despite reductions in DOD's equipment inventory, support personnel, and military activities. At the same time, questions have been raised about whether DOD's logistics system is responsive to emerging operational requirements.

In 2000 we reported that despite DOD's progress in its efforts to reengineer, streamline, and improve the efficiency and effectiveness of its logistics systems, processes, and operations, the Department continues to have serious weaknesses throughout its logistics activities, and it is unclear to what extent the ongoing reengineering effort will address these weaknesses. One of the most critical logistics functions on which we have reported problems is inventory management, which we

identified as high risk in 1990 because levels of inventory were too high and management systems and procedures were ineffective and wasteful. This continues to be a high-risk area.

Improvements are Needed in Logistics Reengineering Plans

DOD is attempting to reengineer and modernize its logistics program to increase efficiency, improve performance, and reduce system operations costs of about $84 billion. Numerous studies have laid the groundwork for the current logistics reengineering efforts. Generally these studies have focused on adopting improved business processes and increasing reliance on the private sector to improve logistical support operations. Based on these studies, DOD has taken steps toward restructuring its logistics processes.

Despite the progress the Department has made with its restructuring effort, our recent review identified several concerns or uncertainties about incompleteness, overly optimistic implementation schedules, the potential for savings associated with specific initiatives, the effect of the initiatives on combat forces, and other factors. For example, many aspects of the restructuring plan are incomplete, raising questions about whether or when the overall goals of improved service and lower costs will be achieved. The services and defense agencies have about 400 ongoing individual initiatives to improve logistics support, and DOD has not developed an overarching plan that integrates individual service efforts into a single, Department-wide implementation strategy.

A March 23, 2000, directive required the military services to establish logistics reengineering plans. The plans are supposed to relate the 400 different service-sponsored logistics reengineering initiatives to DOD's Logistics Strategic Plan, but that plan is very general and does not address all logistics activities or functions. While there is no requirement to develop an overall DOD plan that

integrates the service plans, DOD officials said that the integration will be accomplished through the Department's planned new logistics architecture, which is supposed to provide a blueprint that will guide and control the development and maintenance of the many related logistics systems. It is too early in the development of the logistics architecture to know the integration required if the Department is to achieve the desired economy, efficiency, and performance goals for the restructured process.

Also, uncertainties exist about the overly optimistic implementation schedule that has been established for DOD's reengineering program. For example, the Department plans to use information gleaned from the 30 pilot programs to develop future models for reengineering and policy changes and to fully implement reengineered support strategies by the end of 2005. However, as shown in table 1, some pilot program test plans have not been fully developed, test objectives for others have not been clearly defined or may later change, and test results of some pilots may be delayed.

Table 1: Pilot Programs Whose Plans Are Not Likely to Meet Logistics Reengineering Time Lines

	Number of pilots, by service			
Problem[a]	**Army**	**Air Force**	**Navy**	**Total**
Test plans not yet developed	2	1	4	**7**
Test plans subject to change	6	7	4	**17**
Test results likely not available at end of fiscal year 2002 to support DOD-wide reengineering	7	6	8	**21**

[a]Problems are not mutually exclusive; consequently, some pilot programs are included in more than one category.

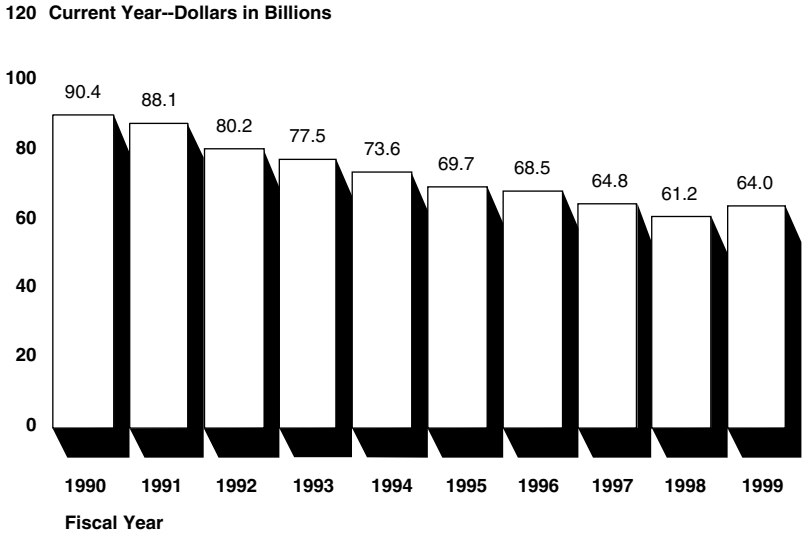
Source: GAO analysis.

Inventory Management Continues to Be High Risk

One of the most serious weaknesses in DOD's logistics operations and where there are questions about whether ongoing initiatives will address past shortcomings is the Department's lack of adequate control over its inventory. Since 1990, we have consistently identified DOD's management of secondary inventories (spare and repair parts, clothing, medical supplies, and other items to support the operating forces) as a high-risk area because levels of inventory were too high and management systems and procedures were ineffective and wasteful.

Figure 8 shows that DOD's inventory value for the last 10 years has been generally declining. However, our past and current work in this area indicates that DOD (1) continues to store unnecessarily large amounts of material, (2) purchases material for which there is no valid requirement, (3) experiences equipment readiness problems because of a lack of key spare parts, and (4) fails to maintain adequate visibility over material being shipped to and from military activities. At the same time, we are seeing selected instances where insufficient inventory support is causing weapon systems to be unavailable for use.

Figure 8: DOD Secondary Inventory Value



Note: Based on latest DOD acquisition cost method of value.

Source: DOD Supply System Inventory Report, Sept. 30, 1999.

As of September 30, 1999, nearly half of DOD's $64 billion inventory exceded war reserve or current operating requirements. DOD had this excess partly because demands decreased, fluctuated, or did not materialize; items became obsolete or were phased out of service; and some of the initial requirements and demand forecasts were not accurate. We recommended in previous reports that DOD improve the effectiveness and efficiency of its inventory activities and adopt new leading-edge business practices.

As of September 30, 1999, DOD records showed that the Department had inventory on order valued at about $1.6 billion that would not have been ordered based on current requirements. We reported in June 2000 that DOD managers needed the items when they placed

orders, but either the records contained errors that resulted in overstating the requirements or the requirements changed after the orders were made. We also reported in November 1999 that the Air Force did not always cancel purchases that exceeded current operating requirements. The Air Force had canceled contracts for about $5.5 million of the $162.4 million excess inventory that we reviewed, but it could have canceled more. Contracts for unnecessary items were not being canceled primarily because the Air Force process for canceling contracts takes a long time, during which costs are incurred for which the government is liable. To correct these problems, we recommended that the Air Force improve the timeliness and accuracy of data that managers use for identifying and canceling excess inventory on order.

DOD has experienced equipment readiness problems because of a lack of key spare parts. For years, insufficient spare parts have been recognized as a major contributor to aircraft performing at lower mission capable rates than expected. In June 2000, we reported that insufficient quantities of spare parts was one of the primary reasons airlift and aerial refueling aircraft had performed below the Air Force Air Mobility Command's mission-capable standard rates. In April 1999 we reported that some Air Force major aircraft were unfit to fly because supply problems had risen from 6.4 percent in fiscal year 1990 to 13.9 percent in fiscal year 1998. Table 2 shows the reported not mission capable rates due to supply problems for the Air Force's major aircraft for fiscal years 1990-98.

Table 2: Reported Total Not Mission Capable Rates for Air Force Major Aircraft

Fiscal year	Percent of aircraft not mission capable due to supply problems
1990	6.4
1991	8.6
1992	9.5
1993	10.2
1994	10.3
1995	10.8
1996	11.0
1997	12.6
1998	13.9

Source: The Air Force's Multi-Echelon Resource and Logistics Information Network and the Reliability and Maintainability Information System.

Our April 1999 report noted that to support the mission capability rates, the military was routinely cannibalizing aircraft for parts and using parts from units' war reserve kits that were intended to support deployed operations. The aircraft spare parts shortages were due in part to DOD's weaknesses in forecasting inventory requirements and the failure of DOD's logistics system to achieve expected inventory management improvements. The inventory forecasting error, for example, caused a $500-million shortfall in funding in the Air Force supply activity group's budget in fiscal year 1997. This shortfall severely limited the Air Force's ability to buy new spare parts for its inventory and pay for the repair of broken aircraft parts.

DOD's inability to maintain adequate oversight of material being shipped to and from military activities is another long-standing inventory management problem. The tracking of this inventory from origin to destination continues to raise concerns about the vulnerability of

this inventory to waste, fraud, and abuse. We reported in June 2000 that the Army did not know the extent to which shipped inventory had been lost or stolen because of weaknesses in its inventory control procedures and financial management practices. The Army reported inventory shipment losses of $297,000, but our analysis indicated the Army could not account for about $900 million in shipped inventory in fiscal year 1998. We also reported in March 1999 that the Navy was unable to account for more than $3 billion worth of inventory being shipped, including some classified and sensitive items.

Because DOD had not fully corrected its long-standing problems in tracking inventory during shipment, the Congress (section 349 of the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999) required DOD to submit a comprehensive plan addressing how it planned to ensure visibility over the shipment of all end items and secondary items. In February 2000, we reported that DOD's September 1999 plan did not contain some key management elements needed to effectively implement its proposed actions or to adequately address underlying weaknesses that have led to the lack of control over inventory shipments. For example, the plan did not fully address how the Department will correct errors in the automated systems that the military services use to manage this inventory. In addition, the plan did not adequately address the underlying problems that have been consistently highlighted in our and DOD's prior audit reports.

Additionally, we reported in July 1999 that DOD had developed comprehensive procedures to track excess property being shipped to disposal but that these procedures were not working effectively. DOD reported that, during fiscal year 1998, property valued at about $2.7 billion was shipped to disposal but had not been recorded as received by disposal offices. In each of our

recent reports regarding DOD's inability to track inventory during shipment we have recommended that DOD correct the weaknesses in its inventory management systems, adhere to the standardized DOD-wide policies and procedures for tracking inventory shipments, and develop long-range plans to enhance the Department's overall management of its inventory.

Key Actions Needed

To enhance DOD's reengineering efforts, we have recommended that DOD develop an overarching plan that integrates the individual service and defense agency logistics reengineering plans to include an investment strategy for funding reengineering initiatives and details for how DOD plans to achieve its final logistics system end state. We also recommended that DOD reassess its schedule for testing, evaluating, and implementing the initiatives; establish a methodology showing the savings or improvements that come from reengineering concepts; and reassess its approach for addressing various combat command concerns, such as the presence of increasing numbers of contractor personnel on the battlefield.

Also, to improve inventory management, we recommended that DOD make more use of supply-chain best management practices similar to those used in the private sector to help cut costs and improve customer service. These include practices such as using highly accurate information systems to track and control inventory and employing various methods to speed the flow of parts through the logistics pipeline.

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Related GAO Products

Strategic Planning

Future Years Defense Program: Risks in Operation and Maintenance and Procurement Programs (GAO-01-33, Oct. 5, 2000).

Force Structure: Air Force Expeditionary Concept Offers Benefits but Effects Should Be Assessed (GAO/NSIAD-00-201, Aug. 15, 2000).

Force Structure: Army Is Integrating Active and Reserve Combat Forces, but Challenges Remain (GAO/NSIAD-00-162, July 18, 2000).

Contingency Operations: Providing Critical Capabilities Poses Challenges (GAO/NSIAD-00-164, July 6, 2000).

Observations on the Department of Defense's Fiscal Year 1999 Performance Report and Fiscal Year 2001 Performance Plan (GAO/NSIAD-00-188R, June 30, 2000).

Future Years Defense Program: Funding Increase and Planned Savings in Fiscal Year 2000 Program Are at Risk (GAO/NSIAD-00-11, Nov. 22, 1999).

Military Operations: Impact of Operations Other Than War on the Services Varies (GAO/NSIAD-99-69, May 24, 1999).

DOD Budget: Substantial Risks in Weapons Modernization Plans (GAO/T-NSIAD-99-20, Oct. 8, 1998).

Quadrennial Defense Review: Opportunities to Improve the Next Review (GAO/NSIAD-98-155, June 25, 1998).

Results Act: DOD's Annual Performance Plan for Fiscal Year 1999 (GAO/NSIAD-98-188R, June 5, 1998).

The Results Act: Observations on DOD's Draft Strategic Plan (GAO/NSIAD-97-219R, Aug. 5, 1997).

Human Capital

Defense Headquarters: Status of Efforts to Redefine and Reduce Headquarters Staff (GAO/NSIAD-00-224, Sept. 6, 2000).

Military Personnel: Services Need to Assess Efforts to Meet Recruiting Goals and Cut Attrition (GAO/NSIAD-00-146, June 23, 2000).

Human Capital: Strategic Approach Should Guide DOD Civilian Workforce Management (GAO/T-GGD/NSIAD-00-120, Mar. 9, 2000).

Military Personnel: First-Term Recruiting and Attrition Continue to Require Focused Attention (GAO/T-NSIAD-00-102, Feb. 24, 2000).

Military Attrition: DOD Needs to Follow Through on Actions Initiated to Reduce Early Separations (GAO/T-NSIAD-99-80, Feb. 24, 1999).

Financial Management

Department of Defense: Implications of Financial Management Issues (GAO/T-AIMD/NSIAD-00-264, July 20, 2000).

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

DOD Inventory: Weaknesses in Controls Over Category I Rockets (GAO/AIMD-00-62R, Apr. 13, 2000).

Executive Guide: Creating Value Through World-Class Financial Management (GAO/AIMD-00-134, Apr. 2000).

Financial Management: Differences in Army and Air Force Disbursing and Accounting Records (GAO/AIMD-00-20, Mar. 7, 2000).

Financial Management: Analysis of DOD's First Biennial Financial Management Improvement Plan (GAO/AIMD-99-44, Jan. 29, 1999).

Information Management and Technology

Information Management and Technology Financial Management: Significant Weaknesses in Corps of Engineers Computer Controls (GAO-01-89, Oct. 11, 2000).

Year 2000 Computing Challenge: Lessons Learned Can Be Applied to Other Management Challenges (GAO/AIMD-00-290, Sept. 12, 2000).

Information Security: Controls Over Software Changes at Federal Agencies (GAO/AIMD-00-151R, May 4, 2000).

Defense Information Management: Continuing Implementation Challenges Highlight the Need for Improvement (GAO/T-AIMD-99-93, Feb. 25, 1999).

Defense IRM: Alternatives Should Be Considered in Developing the New Civilian Personnel System (GAO/AIMD-99-20, Jan. 27, 1999).

Acquisition Reform

Future Years Defense Program: Risks in Operations and Maintenance and Procurement Programs (GAO/NSIAD-01-33, Oct. 5, 2000).

Missile Defense: Schedule for Navy Theater Wide Program Should Be Revised to Reduce Risk (GAO/NSIAD-00-121, May 31, 2000).

Defense Acquisitions: Improvements Needed in Military Space Systems' Planning and Education (GAO/NSIAD-00-81, May 18, 2000).

Defense Acquisition: Employing Best Practices Can Shape Better Weapon System Decisions (GAO/T-NSIAD-00-137, Apr. 26, 2000).

Missile Defense: Status of the National Missile Defense Program (GAO/NSIAD-00-131, Mar. 31, 2000).

Defense Acquisitions: Reduced Operational Effectiveness of Joint Standoff Weapon (GAO/NSIAD-99-137, Aug. 31, 1999).

Missile Defense: THAAD Restructure Addresses Problems But Limits Early Capability (GAO/NSIAD-99-142, June 30, 1999).

Major Management Challenges and Program Risks: Department of Defense (GAO/OCG-99-4, Jan. 1999).

Army Medium Trucks: Information on Delivery Delays and Corrosion Problems (GAO/NSIAD-99-26, Jan. 13, 1999).

Contracting

Contract Management: Little Assurance of Best Prices for DOD Information Technology Services Using GSA's Schedule (GAO-01-125, Nov. 30, 2000).

Contract Management: Not Following Procedures Undermines Best Pricing Under GSA's Schedule (GAO-01-125, Nov. 28, 2000)

Financial Management: Billions in Improper Payments Continue to Require Attention (GAO-01-44, Oct. 27, 2000).

Contract Management: Few Competing Proposals for Large DOD Information Technology Orders (GAO/NSIAD-00-56, Mar. 20, 2000).

Contract Management: DOD Pricing of Commercial Items Needs Continued Emphasis (GAO/NSIAD-99-90, June 24, 1999).

Acquisition Reform: Multiple Award Contracting at Six Federal Organizations (GAO/NSIAD-98-215, Sept. 30, 1998).

Defense Health Care: Operational Difficulties and System Uncertainties Pose Continuing Challenges for TRICARE (GAO/T-HEHS-98-100, Feb. 26, 1998).

Defense Infrastructure

Future Years Defense Program: Risks in Operation and Maintenance and Procurement Programs (GAO-01-33, Oct. 5, 2000).

Defense Management: Actions Needed to Sustain Reform Initiatives and Achieve Greater Results (GAO/NSIAD-00-72, July 25, 2000).

Military Housing: Continued Concerns in Implementing the Privatization Initiative (GAO/NSIAD-00-71, Mar. 30, 2000).

Military Real Property Maintenance: Improvements Are Needed to Ensure That Critical Mission Facilities Are Adequately Maintained (GAO/T-NSIAD-00-51, Oct. 26, 1999).

Military Infrastructure: Real Property Management Needs Improvement (GAO/NSIAD-99-100, Sept. 7, 1999).

Logistics Reengineering

Defense Inventory: Process for Canceling Inventory Orders Needs Improvement (GAO/NSIAD-00-160, June 30, 2000).

Defense Logistics: Integrated Plans and Improved Implementation Needed to Enhance Engineering Efforts (GAO/T-NSIAD-00-206, June 27, 2000).

Defense Inventory: Army Needs to Strengthen and Follow Procedures to Control Shipped Items (GAO/NSIAD-00-109, June 23, 2000).

Defense Logistics: Actions Needed to Enhance Success of Reengineering Initiatives (GAO/NSIAD-00-89, June 23, 2000).

Military Readiness: Air Transport Capability Falls Short of Requirements (GAO/NSIAD-00-135, June 22, 2000).

Defense Inventory: Plan to Improve Management of Shipped Inventory Should Be Strengthened (GAO/NSIAD-00-39, Feb. 22, 2000).

Defense Inventory: Improvements Needed to Prevent Excess Purchases by the Air Force (GAO/NSIAD-00-5, Nov. 10, 1999).

Defense Inventory: Property Being Shipped to Disposal Is Not Properly Controlled (GAO/NSIAD-99-84, July 1, 1999).

Air Force Supply: Management Actions Create Spare Parts Shortages and Operational Problems (GAO/NSIAD/AIMD-99-77, Apr. 29, 1999).

Defense Inventory: Status of Inventory and Purchases and Their Relationship to Current Needs (GAO/NSIAD-99-60, Apr. 16, 1999).

Defense Inventory: Navy's Procedures for Controlling In-Transit Items Are Not Being Followed (GAO/NSIAD-99-61, Mar. 31, 1999).

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