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Report to the Ranking Minority Member,
Subcommittee on Defense, Committee
on Appropriations, U.S. Senate

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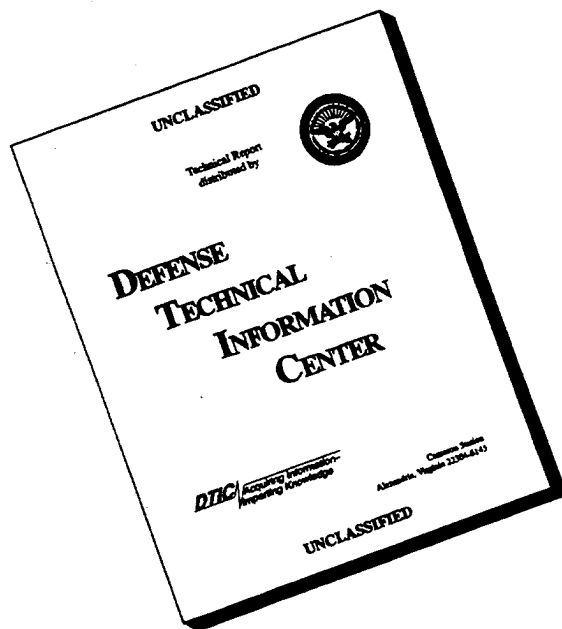
NAVY MAINTENANCE

Assessment of the Public-Private Competition Program for Aviation Maintenance



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

**National Security and
International Affairs Division**

B-270593

January 22, 1996

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

Dear Senator Inouye:

As requested, we reviewed the Navy's plans and procedures for public-private competitions of aviation depot-level maintenance workloads. Various factors limited the amount of past depot-level work available for competitive awards, including the time and costs for performing competitions. While actual savings were difficult to quantify, we found that the Navy's competition programs generally reduced operating costs and in many cases resulted in streamlined production processes. The Navy terminated its aviation maintenance competition program in 1993 and the Department of Defense (DOD) terminated the program in 1994. However, as the DOD begins to implement recommendations by the Commission on Roles and Missions leading to the possible privatization of most depot maintenance, use of competitive procedures for distribution of workloads between the public and private sectors should prove cost-effective.

We are sending copies of this report to the Chairmen and Ranking Minority Members, House and Senate Committees on Appropriations; Senate Committee on Armed Services; House Committee on National Security; the Director, Office of Management and Budget; and the Secretaries of Defense, the Navy, and the Air Force.

Please contact me at (202) 512-8412 if you have any questions concerning this report. Major contributors were Julia Denman, Assistant Director; Gary Phillips, Evaluator-in-Charge; and James Ellis, Evaluator.

Sincerely yours,

David R. Warren
Director, Defense Management Issues

Executive Summary

Purpose

The Navy's aviation depot competition program began in fiscal year 1987 when the Congress authorized the Navy to expand its competition program for ship maintenance and repair to include public-private competitions for aircraft depot repair work. Because of significant savings generated from the ship competition program, the concept was first applied to F-14 fighter aircraft depot overhauls. In 1990, the Navy decided to greatly expand the program to achieve savings in the Navy's \$1.5 billion aviation depot maintenance program. In 1993, the Navy implemented a new industrial strategy that did not include public-private competitions and in May 1994, DOD terminated the public-private competition program, despite continued congressional support for it.

At the request of the former Chairman, and now Ranking Minority Member, of the Subcommittee on Defense, Senate Committee on Appropriations, GAO reviewed the Navy's aviation depot maintenance competition program to determine (1) the nature and extent of past competitions, (2) whether savings resulted, (3) prospects for and impediments to future competitions, and (4) whether program improvements can be made.

Background

Before the public-private competition program, most depot-level maintenance for the Navy's airframes, engines, and aviation components was automatically assigned to Navy depots. The depots were paid a set price for each type of repair based on labor standards, material estimates, and past experience. Other maintenance work was performed by private contractors with the price determined through competitive bidding or contract negotiations. Most Navy aviation maintenance contract workload was awarded on a noncompetitive basis. Under the public-private competition program, the depots and private companies directly competed for selected maintenance work and the bidder offering the best value to the government was awarded the contract.

The Navy public-private competition program was first applied to a Navy aircraft repair requirement in 1987, and in 1992 the Navy started using public-private competition for determining the source of repair for some component repair work. In May 1994, the Deputy Secretary of Defense terminated the program.

The conference committee on the fiscal year 1995 defense appropriations bill noted that both the House and Senate reports raised serious concerns regarding the Department of Defense's (DOD) policy on competition for

depot maintenance workloads. The conferees agreed that public-private competition for depot maintenance workloads should be reinstated.

Results in Brief

Navy public-private competitions generally resulted in savings and benefits, although precisely quantifying such savings is not possible. For competition workloads, public depots substantially reduced operating costs by streamlining production processes and reducing overhead. However, the Navy's expectations to greatly expand public-private competitions and to thereby achieve over \$550 million in savings over a 6-year period never materialized. The time and cost of performing such competitions, combined with a rapidly declining depot maintenance workload and a private sector concern about fairness, resulted in much less maintenance work being subjected to public-private competition than had been projected. The issue of fairness centers on private sector concerns that military depot prices did not reflect the total cost to the government of performing this work, including the labor and material to be applied to competition work as well as an appropriate share of overhead.

Congressional direction to reinstate public-private competitions together with recommendations by the Commission on Roles and Missions to privatize most depot maintenance work has resulted in DOD reexamining its depot workload with a view toward moving more work to the private sector. Since 10 U.S.C. 2469 requires a public-private competition before any depot workload valued at \$3 million or more can be moved to the private sector, efforts to privatize depot maintenance work will increase the need for DOD to perform public-private competitions, both to comply with the statute as well as to assure that privatization is cost-effective. While DOD maintains it has reinstated its public-private competition program, in practice no competitions have been held since DOD terminated the program in 1994.

A number of factors may limit or impede a major competition program in the current environment. They include (1) the cost and difficulties of performing such competitions and (2) the amount of work available for competition under current law and policies limiting the mix of public and private depot maintenance work.

Initiatives, such as improving cost accounting systems for depot work, can be taken to improve public-private competitions to assure their future

usefulness in identifying the most cost-effective source of repair for depot maintenance workloads.

Principal Findings

Relatively Little Workload Competed

Relatively little depot maintenance workload has been competed between the public and private sectors. Of the \$4.6 billion spent on aircraft and engine maintenance since 1988, only \$268 million, or about 6 percent, was included in the public-private competition program. Similarly, of the \$3.2 billion spent on component repairs since 1992, only \$196 million, or about 6 percent, was competed.

Plans to save \$550 million by competing most Navy aviation depot maintenance work never materialized, primarily because of declining maintenance requirements, greater than expected cost and time requirements to conduct competitions, concerns over fairness, and a change in Navy industrial strategy. Navy officials noted that administrative delays in completing the competitions were caused by the need to clarify maintenance requirements and develop statements of work. However, they conceded that these factors also impede the Navy's ability to conduct competitions among private sector contractors. For example, although Navy officials told GAO they intended to privatize some of the maintenance workload being relocated from closing Navy aviation depots, they are using a two-step process that first relocates the workload to another Navy depot. This is primarily caused by the time requirements to technically and administratively prepare for contracting out the workloads.

Measuring Precise Savings Not Possible

Precisely comparing costs and quantifying savings resulting from public-private competition is not possible because (1) few major competitions have been performed and there is little baseline data allowing a comparison of maintenance costs before and after the competition, (2) maintenance requirements increased as aircraft aged, (3) workloads decreased from precompetition levels, and (4) inflation increased costs. However, available data suggests that savings resulted from the competition program.

Available Data Indicates Savings Generally Resulted

The public-private competition program has reduced depot maintenance costs for the competed workloads. The threat of reduced workloads and

job losses provided an incentive for Navy depots to minimize costs. In response to the competitions, the depots took several steps to lower their costs, such as identifying the most efficient process to accomplish each repair task, developing new staffing requirements to ensure that the minimum number of people with the correct skill levels were assigned, and making organizational changes that would focus on reducing overhead costs.

GAO's comparisons of maintenance and repair costs before and after competitions showed, in most instances, that costs after competition were significantly lower. In cases where the costs were higher, the higher cost was attributable primarily to inflation, increases in required maintenance tasks, and reductions in total workload volume. In these cases, the cost may have been even higher without the competition. GAO's comparison of component repair costs after public-private competition showed that, even with inflation, costs declined in 25 of 33 cases by an average of 41 percent. In eight cases, the costs increased by an average of 37 percent. When adjusted for inflation, the average cost of an F-14 airframe overhaul, competed in 1987 and won by Navy depots, decreased from an average \$1.69 million in the year before the competition to \$1.29 million after the competition. In the first 4 years after the competition, the average cost per F-14 airframe overhaul was about 22 percent lower than the precompetition cost.

Public-Private Competitions Could Be a Useful Tool, but Some Factors May Limit Its Use

The public-private competition program has been beneficial and the conference report on the fiscal year 1995 defense appropriations bill, directed DOD to reinstitute public-private competitions. Further, DOD efforts to privatize a greater share of depot work, as recommended by the Commission on Roles and Missions, will be subject to the 10 U.S.C. 2469 requirement that depot-level maintenance workloads valued at \$3 million or more not be changed to performance by a contractor unless the change is made using competitive procedures that allow DOD depots to participate.

Despite an environment that calls for greater public-private competitions, some of the factors that led the Navy to terminate its competition program even before the Deputy Secretary formally terminated the program throughout DOD may still limit the program's use. For example, depot repair and maintenance workloads continue to decline and the Navy depots are still in a state of transitioning workload from closing depots. However, one of the Navy's key points—that a large part of the remaining work must be retained in the public sector in order to preserve critical

core capabilities—is under review. The core concept was challenged by the May 1995 Report of the Commission on Roles and Missions. Furthermore, the Secretary of Defense's August 1995 comments to the Senate Armed Services Committee on the Commission report stated that DOD agrees with the Commission's recommendation to outsource a significant portion of the Department's depot maintenance work. If this position is implemented as DOD policy, it could significantly increase the amount of Navy workload available for competition, since current law generally requires such changes to be made using competitive procedures that include public depots. However, concerns regarding the time and cost of conducting competitions and the fairness of the program have not been fully resolved.

In March 1995, DOD notified the Senate and House Appropriations Committees that DOD did not plan to reinstate the competition program at that time. According to the DOD's report to the Congress, the financial systems and databases within DOD are not capable of supporting the determination of actual cost of specific workloads. Further, according to DOD officials, there was an expectation that the DOD would be successful in its efforts to have 10 U.S.C. 2469 repealed.

The public-private competition program could be a useful tool for determining where depot maintenance workload can be performed more cost effectively. DOD initiated some actions that could improve the public depots' ability to identify, allocate, and track depot maintenance costs for specific competition workloads, but the termination of the competition program in May 1994 appears to have lessened the incentive to fully implement these programs. Opportunities also exist to implement other improvement initiatives.

Recommendations

GAO recommends that the Secretary of Defense (1) reinstitute public-private competition for depot maintenance workloads as quickly as possible; (2) develop and issue guidelines regarding the conditions, framework, policies, procedures, and milestones for reinstating public-private competition; and (3) require the Defense Contract Audit Agency to review internal controls and accounting policies and procedures of DOD depots to assure they are adequate for identifying, allocating, and tracking costs of depot maintenance programs and to ensure proper costs are identified and considered as part of the bids by DOD depots.

Agency Comments

DOD officials provided official oral comments on a draft of this report that have been incorporated as appropriate. DOD generally concurred with the information regarding (1) limited public-private competitions held to date, (2) benefits achieved from previous competition programs and difficulties quantifying savings, and (3) factors leading GAO to suggest reinstatement of public-private competition programs. However, they noted concerns that depot prices may not fully reflect the cost to the government of performing competition work, including all labor, material, and overhead.

DOD officials generally concurred with GAO's recommendations, but only partially concurred with the recommendation to reinstitute competitions. DOD officials state that a November 1994 memorandum from the Deputy Under Secretary of Defense to the service secretaries notified depot activities that they can compete for workloads if certain conditions were met. DOD also states that it will comply with all applicable legislation when making source of repair decisions—including the 10 U.S.C. 2469 requirement that prohibits changing workloads valued at \$3 million or more from a public depot without using competitive procedures that include both public and private entities. However, DOD also cites its policy of prohibiting public-private competitions until financial accounting systems are improved and the Defense Finance and Accounting Service certifies that adequate procedures are in place to identify and track all pertinent costs. DOD also cites its policy that only core workloads should be performed in its depots and notes that it plans to seek legislative relief from the 10 U.S.C. 2469 requirement.

DOD's actions show that in practice it has not reinstated public-private competitions. DOD has not conducted a public-private competition since it terminated the program in 1994 and it has not provided guidance to the services for reinstating public-private competitions. Furthermore, GAO believes the November 1994 memorandum provided guidance to the services regarding the conditions which DOD depots could compete for complementary workloads of non-DOD agencies, such as the Federal Aviation Administration's ground communications equipment.

GAO agrees that DOD needs to improve its financial accounting and information systems; however, completion of these improvements should not preclude public-private competitions. GAO believes that development of the Cost Comparability Handbook for preparing bids and the availability of the Defense Contract Audit Agency to review the current cost systems and assure that successful bids include comparable estimates of all direct

and indirect costs provide reasonable bases for conducting such competitions.

Regarding GAO's recommendation that the Defense Contract Audit Agency certify the adequacy of internal controls and accounting procedures, DOD officials stated that they agreed that certifications were required and that they planned to have the Defense Finance and Accounting Service perform this task. Since the Defense Finance and Accounting Service owns the DOD accounting systems and for other reasons, GAO continues to believe the Defense Contract Audit Agency would provide a more rigorous, independent assessment of the ability of military depots to identify and track the costs of competition work and to prepare competition bids that include all appropriate costs.

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Abbreviations

ASO	Aviation Supply Office
DOD	Department of Defense
GAO	General Accounting Office
NAVAIR	Naval Air Systems Command
NADEP	Naval Aviation Depot

Introduction

The Navy historically has accomplished required depot-level maintenance for aircraft by assigning work to Naval Aviation Depots (NADEP) and by contracting out work to private companies. NADEPS mainly repair the airframes, engines, and components associated with key aircraft such as the F-14 Tomcat and the P-3C Orion. Private contractors perform Navy aviation maintenance work such as the repair of certain cargo and training aircraft, selected engines, and designated components. A limited amount of Navy aviation maintenance work is performed by other service maintenance depots.

The Naval Air Systems Command (NAVAIR), which operates NADEPS, determines depot maintenance requirements for airframes and engines on the basis of fleet needs and administers the airframe and engine repair programs. Similarly, the Naval Aviation Supply Office (ASO) determines repair requirements for aircraft and engine components and administers the component repair program.

Table 1.1 shows the Navy's funding for airframe, engine, and component depot-level maintenance in fiscal year 1994.

Table 1.1: Fiscal Year 1994 Depot Maintenance Funding for Major Programs

Program	Public depots		Private companies		Total
	Amount	Percent	Amount	Percent	
	Airframes	\$240.9	73	\$87.1	
Engines	168.1	86	27.1	14	195.2
Components	625.5	61	398.1	39	1,023.6
Total	\$1,034.5	67	\$512.3	33	\$1,546.8

In an April 12, 1994, testimony,¹ we pointed out that previous reports of workload mix between the public and private sectors understate the portion of funding going to the private sector. We noted that an actual accounting of what percentage of the depot maintenance dollars ultimately going to the private sector, either directly or through the purchase of repair parts or secondary services is not readily available because of limitations in the way the Department of Defense (DOD) collects data. However, based on our review of available data, we projected that more than 50 percent of depot maintenance funding goes to the private sector.

¹Depot Maintenance: Issues in Allocating Workload Between the Public and Private Sectors (GAO/T-NSIAD-94-161, Apr. 12, 1994).

Public-Private Competition

Competition between the public and private sectors for depot maintenance work initially began in fiscal year 1985 when the Congress authorized a test program to allow public and private shipyards to compete for the overhaul of selected ships on the basis of cost comparisons. The competition program's goal was to help balance public and private industrial base concerns while achieving economy through competition. The Congress believed that by allowing public and private shipyards to directly compete for work, depot performance would be improved and depot maintenance costs would be reduced. Our 1994 report provided the history and status of the Navy's ship competition program.² In fiscal year 1987, the Congress authorized the Navy to expand the scope of the competition program to include public-private competitions for depot repair of aircraft. The first NAVAIR work package subjected to public-private competition was for F-14 standard depot-level maintenance.

In December 1990, NAVAIR published plans to greatly expand its public-private competition program to meet the savings goal of a Defense Management Review initiative regarding aviation depot maintenance. The NAVAIR plan assumed that most airframe and engine overhaul work above the minimum levels required to support the depot industrial base would be subjected to public-private competition. The plan specifically included future competition for 10 different airframes and 4 different engines. Partly based on initial results from the F-14 competition, the plan also assumed that the new competitions would result in a 20-percent savings in maintenance costs, or about \$550 million by fiscal year 1995. In fiscal year 1992, ASO began its public-private competition program for aviation components with a goal to achieve significant maintenance cost savings.

Because of concerns over rapidly declining depot maintenance requirements, the need to reduce excess depot capacity and help preserve the private sector industrial base, NAVAIR announced a new depot industrial strategy in April 1993 that basically eliminated future use of public-private competition for Navy aviation maintenance. The new strategy called for NADEPS to perform core maintenance work and for private contractors to perform non-core work. Core work was defined as the work necessary to maintain fleet readiness throughout the life cycle of front line weapon systems. The strategy expected that as the public and private sectors specialized, the public depots would only compete against private companies when there was insufficient competition in the private sector to ensure reasonable repair prices. The strategy did not specify criteria for

²Navy Maintenance: Assessment of the Public and Private Shipyard Program, (GAO/NSIAD-94-183, May 25, 1994).

assessing insufficient competition. It also did not recognize the impact of the 10 U.S.C. 2469 provision that was enacted in October 1992 requiring that public depots be allowed to compete for depot maintenance workloads valued at \$3 million or more before moving this work to the private sector.

In a May 4, 1994, memorandum on depot maintenance operations policy, the Deputy Secretary of Defense discontinued the DOD's public-private competition program. He cited a report of the Defense Science Board³ that identified several concerns with continuing the program and recommended eliminating it. The report noted the difficulties in conducting fair competitions, the high costs associated with the competition program, and the divisive effects of a policy that asks private sector firms to aggressively compete with their major (sometimes only) customer.

In its report on the fiscal year 1995 DOD appropriation bill, the conference committee disagreed with DOD's announced policy and directed DOD to reinstitute public-private competition. Additionally, the conferees directed DOD to respond to issues raised in House and Senate Appropriations Committee reports regarding public-private competition for depot maintenance workloads.

In its February 1995 report to the Senate and House Appropriations Committees, DOD stated that the financial systems and databases within the Department are not capable of supporting the determination of actual cost of specific workloads. Further, DOD perceives that competitions involving the organic depots have had disruptive and divisive effects on the military services, particularly the depot maintenance community. Last, the report noted that since DOD is moving to size its organic capabilities consistent with its core depot maintenance policy, it is questionable whether additional capacity and resources should be retained in order to compete. The report also stated that DOD is developing policies, procedures, and automated systems that will permit actual cost accounting for specific workloads accomplished in organic depots to overcome these problems and concerns. However, substantial changes are required that will be time-consuming to complete and implement. The report concluded that DOD cannot reinstate public-private competition until cost accounting and data systems are in place to conduct fair and open competitions. Nevertheless, the House and Senate conference

³Depot Maintenance Management, Defense Science Board Task Force, Office of the Under Secretary of Defense for Acquisition and Technology, April 1994.

agreement on the fiscal year 1996 National Defense authorization bill continues to support public-private competitions.

Objectives, Scope, and Methodology

As requested, we reviewed the Navy's public-private competition program for aviation depot maintenance to determine (1) the nature and extent of past competitions, (2) whether savings resulted, (3) prospects for and impediments to future competitions, and (4) whether program improvements can be made.

We performed our review at the following organizations having management responsibility for the Navy's aviation maintenance program: NAVAIR, Washington, D.C.; its subordinate office, the Naval Aviation Depot Operations Center, Patuxent River, Maryland; and the Naval ASO, Philadelphia, Pennsylvania. We also performed detailed audit work at NADEPs that participated in major public-private competitions: the Norfolk NADEP, Norfolk, Virginia; the North Island NADEP, San Diego, California; and Jacksonville NADEP, Jacksonville, Florida. At each location, we interviewed responsible agency personnel and reviewed applicable policies, procedures, and documents.

To assess the program's impact on depot maintenance costs, we attempted to compare the maintenance costs for competed work before and after the competition. Our cost comparisons did not include the costs to perform the competitions or administer the awards and, except for the F-14 competition program, adjustments were not made to account for inflation. Because some competitions involved new maintenance work, our assessment was limited to those involving maintenance work that had been performed before the competition. Our assessment was also limited by the small number of competitions performed and by many factors that make historical cost comparisons difficult such as changes in the amount of maintenance work required, changes in total workload, changes in worker efficiency, and the impact of inflation.

To examine the future potential of the program, we interviewed key managers at headquarters and NADEPs that have been involved with the public-private competition program. We asked the managers questions concerning benefits from the program, barriers limiting the future use of the program, and suggestions for improving the program.

Our analyses used cost data reported by the NAVAIR Industrial Financial Management System. This standardized, automated cost accounting

system provides the Navy's official cost information for NADEP operations. We did not make an independent assessment of the reliability of the data.

The Navy considers the NADEPS' actual cost information on competition work to be business sensitive. Thus, this report does not disclose the actual costs of competition work. Instead, we disclose (1) average maintenance costs per unit over time and (2) differences between actual costs and amounts approved for payment by the contract administrator.

Our review was performed between March 1994 and October 1995 in accordance with generally accepted government auditing standards.

Public-Private Competition for Navy Aviation Repairs Has Been Limited

Between fiscal years 1987 and 1990, the Navy's public-private competition program for aviation depot maintenance went from a limited pilot program to a planned program that was to include nearly all aircraft and engine maintenance work and result in savings of \$550 million over 6 years. The program never matured to the level planned. Only about 6 percent of the Navy's aviation maintenance workload was actually competed between the public and private sectors.

NAVAIR and ASO officials stated that planned program growth never occurred for many reasons, including difficulty in conducting public-private competitions, declining maintenance workloads, and the need to eliminate excess depot capacity. Further, during most years the naval aviation competition program was active, the program was limited to no more than 4 percent of depot maintenance funds.

Limited Workload Included in Program

Relatively little of the funds spent on Navy aviation depot maintenance has been for work competed between the public and private sectors. Of the \$4.6 billion NAVAIR spent on aircraft and engine maintenance since 1988, only \$268 million, or about 6 percent, was included in the public-private competition program. In ASO, only \$196 million, or about 6 percent, of the \$3.2 billion spent on component repairs since 1992 was competed between the public and private sectors. However, ASO officials noted the number of competition program candidates has increased since the program was first used and would have continued to increase if DOD had not terminated the competition program in 1994. Table 2.1 compares total depot maintenance funding to the value of the maintenance work awarded through public-private competition.

Table 2.1: Value of Public-Private Competition Awards

Dollars in millions			
Program	Total depot maintenance funding ^a	Value of public-private competition awards	Percent
Airframes	\$2,953.4	\$237.3	8.0
Engines	1,693.7	30.3	1.8
Components	3,168.8	196.3	6.2
Total	\$7,815.9	\$463.9	5.9

^aTotal maintenance funding includes funding in the years that the public-private competition program was operational for each program. For airframes and engines, total maintenance funding includes fiscal years 1988 through 1994. For components, total maintenance funding includes fiscal years 1992 through 1994.

Table 2.1 also shows that the percentage of competed engine workload was significantly lower than the percentage of competed airframe and component workloads. NAVAIR officials stated that less engine work was competed because the projected savings from engine competitions were much smaller than the other programs. The primary reason for this is that a greater portion of engine costs is for material rather than labor. NAVAIR officials stated that potential competition savings normally are greater for workloads with higher labor costs.

Competition for Airframe and Engine Repairs

NAVAIR's public-private competition program for airframe and engine maintenance has included six competitions, five for aircraft work and one for engine work. Four of the six competitions were for maintenance work that had been routinely performed before the competition and two competitions were primarily for new work to upgrade aircraft.

The public sector won four of the competitions valued at \$215.9 million and the private sector won two valued at \$51.7 million. Of the four public sector awards, three went to NADEPS and one was won by an Air Force depot. Table 2.2 summarizes the public-private competitions performed by NAVAIR.

**Table 2.2: Public-Private Competitions
 for Airframe and Engine Maintenance**

Dollars in millions

Workload	Year completed	Type of work	Number of bidders		Winner	Award value estimate
			Public	Private		
F-14A airframe overhaul	1988	Public existing	1	2	Public NADEP	\$81.8
P-3C aircraft upgrade	1988	New	1	1	Public NADEP	31.5
SH-2F airframe overhaul	1990	Private existing	1	2	Private	22.0
S-3A aircraft upgrade	1990	New	1	1	Private	29.7
F/A-18 airframe rework	1993	Public existing	2	2	Public Air Force	72.3
J-52 engine repair	1993	Public existing	2	1	Public NADEP	30.3

The winning bid was the lowest bid in five of the six NAVAIR public-private competitions. For these five competitions, the winning bid averaged 42 percent less than the next closest bid. In the competition for the SH-2F helicopter overhaul, NAVAIR awarded the contract to a private company that had bid higher than the lowest bid. The award was made because the company offered the best value to the government after considering the results from a technical evaluation of all bids.

Competition for Aviation Component Repairs

ASO's public-private competition program included 33 competitions for the repair of aviation components. The estimated total value of the competed workload is about \$196 million. Before the competitions, NADEPS performed the maintenance for 21, or 64 percent, of the components and private companies performed the maintenance for 9, or 27 percent, of the components. The public and private sectors both performed maintenance on the remaining three components.

Three of the competitions had no bids from the private sector and 19 competitions had only 1 private bidder. Ten of the competitions had 2 bids from the private sector and 1 had 3—with only one-third of the competitions having two or more private sector bidders. ASO officials noted that overhaul and repair of complex aviation components is a market area where in many cases only one private sector firm, generally the equipment manufacturer, is interested in and qualified to do the work. These officials noted that most of ASO's contracted workload with the private sector is awarded without competition.

NADEPS won 14, or 42 percent, of the 33 public-private competitions valued at \$61.9 million and private companies won 17, or 52 percent, of the competitions valued at \$120.7 million. In two, or 6 percent, of the competitions, ASO awarded work valued at \$13.7 million jointly to a NADEP and a private company. Each competition award was made to the lowest bidder. Details concerning each of the ASO public-private competitions are included in appendix I.

Reasons for Limited Program

In the early years of the competition program, the Navy's public-private program for aviation maintenance was limited to not more than 10 percent of the non-core depot funds, or 4 percent of the total depot funds. There was a statutory limitation on the amount of work that could be competed by the Army and the Air Force. However, because the DOD competition program was structured as a prototype program, the Navy adhered to the

limitation as well. The Fiscal Year 1993 National Defense Authorization Act rescinded the limitation on the amount of depot maintenance funds eligible to be spent for workload that was awarded based on public-private competitions.

While Navy planning documents suggested that the Navy expected to expand the program to incorporate much of its non-core engine and aircraft workload, NAVAIR officials stated that the planned expansion was not realistic. Although the Navy had been authorized to conduct public-private competitions for its aviation workloads since 1987, in May 1993 testimony,¹ we noted that it had completed only four competitions—two aircraft and two component parts. Additionally, a 1992 Naval Audit Service report concluded that the Naval Air Systems Command was not obtaining the full potential benefit of the competition program and attributed this condition to several factors, including a lack of guidance. Although the Navy subsequently initiated action that was expected to substantially increase the amount of competed work, the planned expansion never occurred for the following reasons:

- The time and cost of performing competitions. For example, in 1990 NAVAIR found that preparing the statements of work and request for proposals necessary to conduct the competitions was much more difficult and time-consuming than had been expected. As a result, about 2 years passed before additional workload packages were ready to compete. Navy officials conceded the amount of time required should have been anticipated since administering a competition program that only involves private sector bidders also requires significant time for performing required technical and administrative tasks.
- Defense downsizing resulted in rapidly declining maintenance workloads and less workload available for public-private competition. Since core workload was to be maintained in Navy depots, there were fewer opportunities to identify above-core workloads that were large enough to make it worthwhile to undertake a competition. Moreover, uncertainties involving workload shifts from closing depots made it difficult to plan for and accomplish additional public-private competitions.
- Implementation of a new Navy maintenance strategy that called for downsizing Navy depots to core and contracting out non-core workload with the private sector. The introduction of this strategy in the Navy basically terminated the Navy's public-private competition program, even though DOD did not cancel the program until May 1994. Moreover, this

¹Depot Maintenance: Issues in Management and Restructuring to Support a Downsized Military (GAO/T-NSIAD-93-13, May 6, 1993).

strategy did not recognize the 10 U.S.C. 2469 provision requiring that before privatizing workloads of \$3 million or more, public depots be allowed to compete for the work.

ASO officials also stated that their public-private competition program was limited for several reasons, including the relatively late start of the program in 1992. In addition, ASO officials agreed with NAVAIR that performing a public-private competition was difficult, time-consuming, and resource intensive. As a result, few competitions were completed before DOD's termination of the program in 1994. However, these officials pointed out that the same limitations impact this activity when it attempts to conduct competitive procedures that involve only the private sector. Officials noted that most of ASO's contract depot maintenance workload is awarded without competition—generally to the original equipment manufacturer. Additionally, officials noted that the number of systems competed through the public-private competition program had been increasing at the time the Deputy Secretary of Defense terminated the program in May 1994.

Competition Program Considered Beneficial, but Quantifying Savings Is Difficult

Steps implemented by NADEPS in response to public-private competition have resulted in maintenance savings. However, precisely comparing costs and quantifying the savings is difficult because many variables affect maintenance costs other than competition, such as changing maintenance requirements and decreasing total workload. Nonetheless, available information indicates that competition generally resulted in lower costs, particularly when inflation and workload changes are considered.

Competition Program Has Been Beneficial

We interviewed 14 officials at NAVAIR, ASO, the Naval Aviation Depot Operations Center, the Norfolk NADEP, and the Jacksonville NADEP to obtain opinions on public-private competition for aviation maintenance. Each official had detailed experience with the program.

All of the officials believed that public-private competition has been beneficial to the government and has resulted in maintenance savings for the involved workloads. They stated that, as competitions were performed for maintenance work that had always been assigned to the depots, NADEPS knew that many jobs could be eliminated if they lost the competitions. As a result, the program motivated NADEPS to streamline overhead, improve work processes, reduce labor and material requirements, and implement other cost-saving initiatives in order to submit the lowest possible bids. For example, in preparing their competition bids, we were told that NADEPS carefully evaluated the maintenance specifications to ensure that they would only perform required repair work and eliminate unnecessary tasks. Each required task was closely evaluated to ensure that the most efficient process would be used to accomplish the work. In addition, new staffing requirements were developed from the bottom up to ensure that only the minimum number of people with the correct skill levels were assigned to the repair process.

As a result of the competition for the F-14 overhaul, the Norfolk NADEP went from a two-shift operation to a one-shift operation and reduced the number of personnel assigned to the program. In this process, Norfolk reduced the F-14 production staff by over 100 people. Norfolk also made other changes to increase cost awareness and control. For example, the number of cost centers was increased to provide better visibility of production overhead costs and cost center managers were made responsible for controlling these costs. General overhead costs also were reviewed to eliminate unnecessary expenses.

In response to the public-private competition for the F/A-18 work, the North Island NADEP did a detailed review of the F/A-18 repair operations with a view to reduce costs. One of the changes adopted reduced labor and processing time by moving work crews to each aircraft as work progressed instead of physically moving the aircraft to different work stations. Other cost saving changes included establishing central approval authority for recommended repair tasks, having daily progress meetings between the managers and artisans at the site of each aircraft in the plant, and reducing component repair time by only repairing the items needed for safe operation instead of completely overhauling the entire component. Although North Island lost the F/A-18 competition to an Air Force depot, the changes were incorporated into the NADEP's operations for core aircraft that were not included in the competition package. Additionally, NADEP North Island submitted an unsolicited proposal for the F/A-18 workload being performed at the Air Force depot and the Navy decided not to exercise an option with the Air Force depot for the second year and returned the workload to North Island.¹

Navy officials stated that the measures adopted by NADEPs in response to competition caused the depots to become more businesslike, with an increased focus on efficiency and bottom-line results. Similarly, public-private competition also provided an increased incentive for private companies to minimize their bids in order to win competed workload. As a result, the officials stated that public-private competition has helped to ensure that maintenance work was performed by the activity, public or private, that provided the best value to the government. However, officials acknowledged that after the public-private competition program was canceled, it no longer served as an impetus for implementing many of the program improvements.

Limitations in Quantifying Competition Savings

Although NADEP managers believe the public-private competition program had a positive impact on reducing depot maintenance costs, precisely quantifying the program's impact is difficult for several reasons. First, because relatively little workload has been subjected to public-private competition, only limited quantitative information is available for analysis. For example, only four of NAVAIR's six competitions (F-14 airframe, SH-2F airframe, F/A-18 airframe, and J-52 engine) involved existing workload where baseline data is available to allow a comparison of maintenance costs before and after competition. Further, although baseline data was

¹The Navy's decision is discussed in our report, *Depot Maintenance: The Navy's Decision to Stop F/A-18 Repairs at Ogden Air Logistics Center* (GAO/NSIAD-96-31, Dec. 15, 1995).

available for the ASO component competitions, the 33 competitions represent a very small portion of the many thousands of different components managed by ASO.

Second, of the competitions with baseline data, work was still in process on the J-52, F/A-18, and all ASO competition awards at the time of our review. Thus, only limited actual performance information was available for analysis.

Third, a comparison of average maintenance costs per unit before and after competition is affected by many variables other than the competition itself. For example, as aircraft get older, generally more repair work is required, which increases repair costs. These cost increases can be a significant factor over a 5-year period such as that involving the F-14 competition work. Other factors making cost analyses difficult include decreases in total workload that increase overhead costs per unit, the impact of inflation, possible inconsistencies in cost accounting procedures, changes in worker efficiency, and possible productivity losses from decisions to close depots such as the 1993 decision to close the Norfolk NADEP.

Maintenance Costs After Competition

Recognizing the limitations on quantifying savings, we compared actual average maintenance costs per unit for F-14 airframes, F/A-18 airframes, and J-52 engines before and after public-private competition. For SH-2F airframe maintenance, we compared the average contract costs before and after the competition. For the ASO component competitions, we compared amounts paid for the work before the competitions with the amounts included in the competition awards.

F-14 Overhaul Costs Declined

NAVAIR's first work package subjected to public-private competition was for F-14 standard depot-level maintenance. This work, which basically is an overhaul of the airframe, had always been performed by the Norfolk and North Island NADEPS. However, all F-14 overhauls, both competitive and noncompetitive, were to be performed in the same manner.

The F-14 competition package consisted of 4 F-14 overhauls for the first year of the award and 20 overhauls a year for 4 subsequent years. Although never used, the package also gave the Navy an option to include up to five additional overhauls each year under the competition program.

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NADEPS won the competition with a bid substantially lower than the next closest private sector bid. The first F-14 airframes under the program began overhaul near the end of fiscal year 1988. Not all planned F-14 overhauls were included in the competition package because the Navy wanted to ensure that the NADEPS would retain a core capability for repairing F-14s in support of military contingencies even if they lost the competition work. As part of its December 1990 plan to reduce depot costs, the Navy decided to perform all F-14 overhaul work at the Norfolk NADEP. The last F-14 overhauled under the competition award was completed in November 1994. From fiscal year 1987, the year before the competition program, through fiscal year 1994, the Norfolk and North Island NADEPS completed 83 F-14 competition overhauls and 244 noncompetition overhauls.

After the start of the competition program, our analysis of F-14 overhauls showed that, after adjusting for inflation, the average overhaul cost was substantially lower for the 5 years covered in the competition package—1988 through 1992. Before the competition in fiscal year 1987, the average F-14 overhaul cost was \$1.69 million. In fiscal year 1988, the average overhaul cost had dropped to \$1.29 million, a decrease of about 24 percent. Even as the workload began to decline and aircraft aged from 1988 through 1992, the inflation-adjusted cost remained significantly lower than the fiscal year 1987 noncompetitive cost. In 1993 and 1994, the number of F-14 overhauls dropped substantially and the average cost increased above the 1987 precompetition level. Table 3.1 summarizes our F-14 overhaul analysis. The analysis includes both competition and noncompetition overhauls and excludes the costs of airframe modifications, which vary from airframe to airframe. Costs have been adjusted to constant fiscal year 1987 dollars to account for inflation.

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Table 3.1: F-14 Overhaul Costs Before and After Competition

Dollars in thousands

Fiscal year	Overhauls completed ^a	Average cost	Percent change from fiscal year 1987
1987	60	\$1,690	0
1988	66	1,292	-24
1989	57	1,392	-18
1990	46	1,173	-31
1991	26	1,314	-22
1992	33	1,591	-6
1993	23	2,051	21
1994	14	2,040	21

^aExcludes two overhauls for which final cost data was not available at the time of our review.

Norfolk NADEP officials attribute the decline in F-14 costs to the cost saving measures adopted as a result of the public-private competition program. Although the savings were substantial, several factors limited the amount of savings. For example, they stated that as the F-14s aged, several maintenance problems developed that required more work to correct during the overhaul process than had been previously experienced. At the same time, many F-14 components had to be repaired concurrently with each overhaul rather than simply replaced because the components were not available in the Navy supply system. In addition, total workload assigned to the NADEP decreased sharply after 1990 resulting in an increase in the overhead costs charged to each overhaul. Finally, depot officials acknowledged that worker efficiency declined after the 1993 decision to close the Norfolk NADEP. As discussed in a recent report, this efficiency loss also occurred at other closing depots.²

F/A-18 Maintenance Costs Declined

In 1993, NAVAIR subjected the F/A-18 depot maintenance to public-private competition. The competed workload, called the F/A-18 maintenance, corrosion, and paint program, is similar to an overhaul of the airframe and is referred to as an overhaul in this report. The North Island NADEP always performed this work before the competition. Similar to the F-14 case, not all planned F/A-18 overhauls were included in the competition package because the Navy wanted to ensure that the NADEP would retain a core

²Closing Maintenance Depots: Savings, Personnel, and Workload Redistribution Issues (GAO/NSIAD-96-29, draft report submitted to DOD for comment Sept. 1995).

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capability for repairing F/A-18s in support of military contingencies even if they lost the competition.

The Air Force's Ogden Air Logistics Center depot submitted the lowest bid for the competed workload and was awarded the contract. At the time of our review, the Air Force depot had completed 13 of the 36 F/A-18s included in the competition award. We analyzed the Navy's F/A-18 costs at the North Island NADEP before and after the competition effort. At the time of our review in February 1995, North Island had completed eight F/A-18s from the core workload that were not competed using the new process improvements adopted as a result of the competition. Our analysis showed that the average cost of an F/A-18 overhaul at the North Island NADEP was 37 percent lower than the average cost before the competition.

We are separately reporting in more detail on the Air Force's F/A-18 costs and contract performance along with the Navy's decision not to exercise contract options with the Air Force.³

J-52 Engine Repair Costs

For the past several years, the Jacksonville NADEP has performed required depot maintenance on the J-52 engine, which powers the A-6 aircraft. Depending on the extent of maintenance required, the depot repair of each J-52 engine is classified as a minor repair, a major repair, or a major repair with conversion.

The J-52 competition package consisted of a base period and options for work in 4 subsequent years. Estimated workload for the base period included 12 minor repairs, 95 major repairs, and 60 major repairs with conversion. In fiscal year 1993, the year before the competition program, Jacksonville completed 8 J-52 minor repairs, 100 J-52 major repairs, and 125 J-52 major repairs with conversion.

The Jacksonville NADEP won the competition in July 1993 with a bid significantly below other bids. The first J-52 engine work under the award began in January 1994. Since the competition, all J-52 engines are being repaired under terms of the competition award. At the time of our visit to Jacksonville in September 1994, the NADEP had completed 28 engines consisting of 11 major repairs and 17 major repairs with conversion.

³Depot Maintenance: The Navy's Decision to Stop F/A-18 Repairs at Ogden Air Logistics Center (GAO/NSIAD-96-31, Dec. 15, 1995).

We compared the average costs of J-52 engine major repairs and major repairs with conversions for fiscal year 1993 to the average costs of engines completed thus far under the competition program. The analysis showed that, with inflation included, the average cost of J-52 major repairs decreased by 2 percent and major repairs with conversions increased 4 percent, from the averages before competition.

Jacksonville officials stated that factors outside of their control, such as declining workload and problems with material availability, caused J-52 costs to be higher than they would have been otherwise. They stated that without competition, J-52 costs would have been even higher.

SH-2F Costs Increased

The SH-2F public-private competition involved standard depot-level maintenance, or overhaul, of an estimated 54 helicopter airframes over a 4-1/2 year period. The same private contractor that had performed this work before the competition won the competition award in 1990. Under the contract prior to the competition, the contractor had overhauled 75 SH-2F airframes. Under the competition contract, only 14 airframes were actually overhauled because of declining workload requirements.

We compared the average contract cost for the 75 SH-2F airframe overhauls before competition to the average contract cost of the 14 SH-2F airframe overhauls completed under the competition award. Because the cost of government-furnished material was excluded from the prior contract but included in the competition award, we made an adjustment using Navy estimates to make the costs comparable.

The analysis showed that the average SH-2F airframe overhaul cost was 60 percent higher after the public-private competition. NAVAIR officials attributed the cost increase to inflation and to differences in the work required by the two contracts. The officials stated that some additional repair work was required by the public-private competition contract that was not required by the previous contract.

ASO Component Costs

All of ASO's 33 public-private competitions for component repairs involved work that had been previously performed by either a depot, a private contractor, or both. We compared the average cost of each of these component repairs before the competition to the average price included in the competition award. Table 3.2 summarizes the changes in component repair costs after the public-private competition.

Table 3.2: Changes in Component
 Repair Costs After Competition

Type of change in costs	Number of cases	Percentage of cases	Average change in costs
Decrease	25	76	-41
Increase	8	24	37
Total	33	100	-24

As shown in table 3.2, the average repair costs decreased in 25 of the 33 cases after competition. Of these 25 cases, the work continued to be performed in the same sector after the competition in 15, or 60 percent, of the cases. Of the remaining cases, work shifted from the public sector to the private sector in seven cases, from the private sector to the public sector in two cases, and from both sectors to the private sector in one case. For example, depot maintenance for a generator component used on the P-3C aircraft had been performed by the Alameda NADEP before the competition. After the competition, the work was shifted to a private company that had bid 70 percent less than the average amount previously paid to the NADEP for the work. In another case, the Norfolk NADEP won the competition for repair of a fire control set component used on the F-14 aircraft. The NADEP had bid 85 percent less than the average amount paid to a private contractor that had performed the work before the competition.

Table 3.2 also shows that average repair costs of competed components increased after competition in eight cases. For example, the repair of a turbine stator component used in a J-52 engine was performed by a private contractor before the competition. During the public-private competition for the work, the same contractor and one NADEP submitted bids. The contractor bid less and won the work although the bid was 54 percent higher than the amount paid for the work before the competition.

Conclusions

Available data indicates that maintenance savings have generally been achieved as a result of the Navy aviation public-private competition program. However, quantifying the precise savings is not possible. Quantitative evaluation is limited not only by the small number of competitions that have been conducted, but also by the many variables other than competition that affect maintenance costs. Nonetheless, available information indicates that competition generally resulted in lower costs, particularly when inflation and workload changes are considered. Further, maintenance officials involved in performing this work believe that the complete program was cost beneficial.

Future Use of Public-Private Competition Appears Advantageous

Although it appears the Navy's aviation public-private competitions resulted in benefits and DOD plans to privatize more of its depot work, DOD is not allowing the use of public-private competitions. Further, the consensus of Navy officials we interviewed is that several factors, such as declining workload and implementation of depot closure decisions may restrict the program's potential use. However, a current legislative requirement directs that public-private competition be used before depot maintenance workloads of \$3 million or more can be shifted to the private sector. Also, while DOD maintains it cannot effectively implement public-private competitions largely because of accounting system weaknesses, we believe actions can be taken to work around these problems.

Current Environment Calls for Public-Private Competitions

DOD is currently formulating plans to implement the Roles and Missions Commission's recommendation to privatize much of DOD's depot maintenance workload.¹ The Commission report recommended that the DOD transition to a depot maintenance system relying mostly on the private sector. In an August 24, 1995, letter to the Chairman of the Senate Armed Services Committee, the Secretary of Defense stated that DOD agrees with the Commission's recommendation to outsource a significant portion of the DOD's depot maintenance work.

However, current law precludes transitioning depot maintenance workloads valued at \$3 million or more to the private sector without allowing public depots to compete. Title 10 U.S.C. 2469 provides that the performance of a depot-level maintenance workload that has a threshold value of \$3 million or more being performed by a depot-level activity of DOD may not be changed to the private sector without using competitive procedures that include both public and private entities. This provision is intended to assure that the work will be awarded based upon where it can be accomplished more cost-effectively.

Following DOD's 1994 decision to terminate the public-private depot competition program, the fiscal year 1995 defense appropriations conference report directed DOD to reinstitute public-private competition and to report its policy regarding public versus private competition for depot maintenance workloads. In a report responding to the Committee's direction to reinstitute the program, DOD stated that the financial systems and data bases within DOD are not capable of supporting the determination of actual cost of specific workloads. The report concluded that DOD cannot

¹Report of the Commission on Roles and Missions of the Armed Forces, May 24, 1995.

reinstate public-private competition until cost accounting and data systems are in place to conduct fair and open competitions. The Congress continued to support the public-private competition program in considering the fiscal year 1996 appropriation and authorization bills.

Factors That Might Limit the Future of the Program

We interviewed 14 officials at NAVAIR, ASO, the Naval Aviation Depot Operations Center, the Norfolk NADEP, and the Jacksonville NADEP to obtain opinions regarding the future use of public-private competition for aviation maintenance. Each official had detailed experience with the program.

All of the officials stated that barriers exist that limit the future use of the competition program. For example, the officials stated that the NADEPs are required to maintain the ability to perform depot repairs on front line weapon systems. To meet this requirement, the NADEPs must perform a defined minimum quantity of work, called core workload, on front line weapon systems. Thus, only workload requirements above the level defined as core are considered potentially available for public-private competition. Because of defense downsizing, funding for airframe and engine depot maintenance decreased about 30 percent between fiscal years 1991 and 1994 and further reductions are expected. As depot workload decreases, the above-core workload also decreases making less work potentially available for competition. However, we noted that findings of the Report of the Commission on Roles and Missions challenged the validity of the core concept. Likewise, the Secretary of Defense's comments to the Senate Armed Services Committee regarding this report noted that DOD agrees with the Commission's recommendation to outsource a significant portion of DOD's depot maintenance work. The Secretary's letter also noted that DOD believes it must retain a limited organic core to meet essential wartime surge demands, promote competition, and sustain institutional expertise.

With smaller workloads to compete, officials stated that potential savings from public-private competitions are reduced. In addition, the reduced potential savings may be offset by the high cost to perform public-private competitions. These costs include the costs to prepare the request for proposal, evaluate proposals, make selections, and perform contract administration. Further, some officials also stated that additional savings from recompeting work previously subjected to public-private competition would be progressively smaller. We noted that the factors cited as costs of competition are also relevant for competitions conducted solely among

private sector contractors; that is, in order to save money, it is necessary to spend money.

Another potential barrier to public-private competition for aviation maintenance work is implementation of the Base Closure and Realignment Commission decisions. In 1993, decisions were made to close three of the six Navy NADEPS. Implementing these decisions involves much planning, management attention, and disruption to normal operations as maintenance capabilities and workload are shifted from the closing depots to other facilities. As a result, NAVAIR and NADEP managers say they have less time to manage the technical and administrative details of public-private competitions. Additional uncertainties over the future structure of DOD's aviation maintenance depots will continue to exist until the 1995 round of base closing decisions are implemented. A related concern is the potential socio-economic impacts of traditional maintenance organizations losing all or substantial work resulting from competitions.

The officials interviewed noted additional concerns about the public-private competition program. For example, concerns exist in both the public and private sector over the fairness of competitions and the ability of DOD to create a level playing field. Several officials stated that while progress has been made in making competitions fair, problems remain. Also, some officials noted that NADEPS are required to maintain certain facilities, equipment, and skills to support national defense requirements. This requirement, particularly as total workload declines, increases depot overhead costs and makes NADEPS less competitive in comparison to the private sector.

The officials further commented about problems with the NADEPS' cost accounting and work control systems in a competitive environment. The NADEPS' systems were designed to support budgetary, accounting, and work processing needs for Navy industrial activities where work is directly assigned. The systems have been certified by the Navy comptroller as meeting DOD principles and standards. However, the systems were not designed to support bid preparation and contract execution as required by the public-private competition program. As a result, NADEPS often use additional, costly manual efforts and processes to prepare competition bids and comply with contract administration procedures for competition awards.

Further, DOD perceives that competitions involving the organic depots have had disruptive and divisive effects on the services, particularly the depot maintenance community. Last, given that DOD is moving to size its organic capabilities consistent with its core depot maintenance policy, DOD officials stated that it is questionable whether additional capacity and resources should be retained in order to compete.

Possible Improvements to the Program

We asked Navy officials whether any additional changes were needed to improve the public-private competition program. Several officials stated that the program could be improved if it were recognized that the depots exist to support national defense requirements, and as such, cannot be operated entirely like a private business. For example, although the government cannot contract with itself, NAVAIR treats a competition award to a NADEP like a contract by establishing a separate contract administration function and requiring the NADEP to comply with private sector contract administration procedures. The officials interviewed stated that these procedures duplicate normal NADEP funding and work control processes and cause the NADEP to incur unnecessary costs in trying to execute competition awards like a private business.

At other times, several officials stated that NADEPS are not expected to operate like a private business. For example, some NADEPS have experienced frustration when military command decisions occasionally shift NADEP work priorities or present other demands that conflict with the best execution of competition work from a contractual perspective. NADEP managers believe their primary mission is to support the fleet. Thus, they have tried to be responsive to what they believe are the needs of the customer, even though this may not be in the NADEP's best interest from a contractual perspective.

The substantial contractual cost overrun on the F-14 overhaul competition shows the adjustments depots must make to operate in a competitive contractual environment. The actual costs incurred by the Norfolk and the North Island NADEPS in overhauling the F-14 will exceed the amounts the contract administrator approved for payment. Overall the potential overrun is about \$59 million, or an average of about \$700,000 for each of the 84 overhauls. Under precompetitive, noncontractual conditions the depot is paid a fixed price for the work performed, including work that is in addition to the original work order. Under the competitive environment, the NADEPS sometimes performed work that was over and above the contractual requirement without always getting approval from the contract

administrator and thereby incurring overruns. A private contractor does not get paid for any work or costs that are over and above the contract requirements unless approved by the contract administrator.

To address these concerns and reduce administration costs for competitions awarded to NADEPS, several officials suggested that NAVAIR (1) to the extent possible establish fixed prices for competed work based on the bid amounts, (2) execute the work like normal workload using existing control systems with no separate contract administration, (3) use independent auditors to validate depot performance after the work is completed, and (4) assess penalties for cost overruns to make the depot less competitive on future competitions.

If no changes are made in the administration of competition awards to NADEPS, the officials interviewed suggested other improvements to the competition program. For example, several officials stated that NAVAIR maximize use of fixed prices to reduce the time and cost of negotiations for over and above work. Several officials also suggested that NAVAIR develop systems that will aid NADEPS in developing bid proposals and in interfacing with the contract administrator.

Other Actions Taken and Needed to Improve Public-Private Competitions and Ensure Their Fairness

DOD has already taken numerous actions to enhance the credibility and fairness of public-private competitions when the Deputy Secretary of Defense canceled the competition program in May 1994. In addition, there are other actions that can be taken to further enhance the fairness and credibility of future competitions, should DOD reinstitute the program.

Many of the actions that DOD took to improve public-private competitions were summarized in our September 30, 1993, correspondence to the Chairman, Subcommittee on Defense, Senate Committee on Appropriations.² For example, we noted that actions taken to improve the process included (1) the development of a Cost Comparability Handbook that, among other things, identified adjustments that should be made to public depots' bids as a result of differences in the military services' accounting systems and (2) the Defense Contract Audit Agency certifying that successful bids included comparable estimates of all direct and indirect costs. However, we noted that after DOD's termination of the public-private competition program, depot officials lost the incentive to continue with some of the improvement initiatives previously undertaken.

²Depot Maintenance (GAO/NSIAD-93-292R, Sept. 30, 1993).

Our 1993 correspondence also identified additional actions that could be taken to further improve the competition program. These included (1) ensuring that the Defense Contract Audit Agency auditors receive the technical support they need to properly evaluate depots' bids and (2) requiring the Defense Contract Audit Agency to conduct an incurred cost audit to assess whether depots are able to perform work for the amount they bid.

Defense Contract Audit Agency personnel pointed out that some of the same accounting system and bid proposal problems they identified during accounting system and bid proposal audits were identified during their reviews of private contractors, particularly when contractors have not previously dealt with DOD contract administration practices and procedures. These officials noted that when multiple competition programs required follow-on reviews at a given depot, depot bids improved as public depots had to respond to the Defense Contract Audit Agency accounting system audits, which identified problems that had to be resolved and as depot officials became more familiar with required policies and procedures.

Recognizing the need for improved internal controls throughout the DOD depot system, the Under Secretary of Defense (Logistics) has established an Integrated Process Team to assist in framing DOD's efforts to implement required improvements in financial management and internal controls. Coopers and Lybrand is working with one depot in each of the four military services to improve internal controls and accounting procedures. Finally, at our suggestion, the Commander of the Ogden Air Force depot implemented a broad-based financial management improvement program, including the development of a Depot Maintenance Business Area Policies and Procedures Handbook that states policy in support of maintenance activities and gives procedures and tasks necessary to implement the policy. This handbook was developed as a team effort crossing many functional lines and levels of management and production. It addresses financial management responsibility, labor, material, internal controls, and other key areas. Further, Defense Contract Audit Agency officials reviewed drafts of the handbook and worked with depot officials to refine the processes and procedures and conduct follow-up reviews of the program's implementation. Other Air Force depot officials have expressed an interest in implementing a similar program. These initiatives suggest the potential for generating the kind of high-level visibility and commitment that are needed to assure that required improvements are implemented.

Conclusions

While the Congress has continued to support the use of public-private competition, DOD has terminated the public-private competition program. We share the Deputy Secretary of Defense's concerns about the reliability of DOD's depot maintenance data and the adequacy of its depot maintenance management information systems. However, we believe these deficiencies are not insurmountable and that many of them can be resolved at the local level if the depot commanders and senior leadership are committed to do so. Further, if individual depots demonstrate their ability to maintain required internal control and accounting procedures and practices, they should be allowed to compete with the private sector for depot maintenance work. We continue to support the use of public-private competition, where appropriate, as a resource allocation tool for assuring that depot maintenance requirements can be met cost-effectively.

Recommendations

We recommend that the Secretary of Defense (1) reinstitute public-private competition as a tool for allocating depot maintenance workload as quickly as possible; (2) develop and issue implementing guidelines regarding the conditions, framework, policies, procedures, and milestones for reinstating public-private competition programs; and (3) require the Director, Defense Contract Audit Agency, to certify internal controls and accounting policies and procedures of DOD depots to assure they are adequate for identifying, allocating, and tracking costs of depot maintenance programs and to ensure proper costs are identified and considered as part of the bids by DOD depots.

Agency Comments

DOD officials provided official oral comments. They generally agreed with our presentation of facts and the analysis, which led us to conclude that the use of public-private competitions provided an effective tool for allocating depot maintenance workloads between the public and private sectors. However, they noted their concern over the fairness issue, which centers on concerns that depot prices may not reflect the cost to the government of performing competition work, including all labor, material and overhead. Further, they also only partially concurred with our recommendation regarding the reinstatement of the public-private competition program. DOD officials stated that a November 1994 Office of the Secretary of Defense memorandum implementing section 335 of the Fiscal Year 1995 National Defense Authorization Act reinstated public-private competitions and noted the conditions under which military depots could bid on competition work. However, the officials stated that

current DOD policy prohibits depots from competing until improvements to their financial accounting systems have been completed and the Defense Finance and Accounting service certifies that adequate procedures are in place to identify and track all pertinent costs. These officials also told us that DOD intends to request congressional relief from the provisions of 10 U.S.C. 2469 that requires competitive procedures when changing workloads valued at \$3 million or more from public depots to the private sector.

In practice the competition program has not been reinstated. No public-private competitions have been held since the program was terminated in 1994 and depot officials in each of the services told us they have been precluded from bidding on DOD workloads and have dismantled their competition offices. Depot officials also noted that DOD has not issued any guidance to clarify the specific conditions, policies, or procedures to follow in any future public-private competitions.

Regarding DOD's statement that its November 1994 memorandum reinstated public-private competitions, it does not appear that memorandum was directed at such competitions. The memorandum provided guidance regarding depot maintenance workloads of other federal agencies (such as Federal Aviation Administration ground communications equipment or Coast Guard boats) that might be made available for repair in military depots.

DOD officials concurred with our recommendation to have the public depots complete an assessment of internal controls and accounting procedures; however, they said they believe the Defense Finance and Accounting Service should perform the evaluations. We continue to believe that the Defense Contract Audit Agency should be assigned responsibility for the review because this agency (1) is routinely involved in similar evaluations of private sector contractors and is uniquely prepared to undertake this responsibility, (2) was assigned this responsibility during the latter phases of DOD's prior competition program, (3) accomplished accounting system audits and bid proposal evaluations for all military depots competing for public-private competition work, and (4) already identified areas where improvements were needed and, in one case, successfully worked with a depot in developing and implementing required improvements. Further, since the Defense Finance and Accounting Service owns the DOD accounting systems, the Defense Contract Audit Agency would provide an independent assessment of the ability of military depots to identify and track the cost of competition

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work. We continue to believe that the Defense Contract Audit Agency is the preferred agency for accomplishing these tasks.

Public-Private Competitions for Aviation Component Repairs

Dollars in millions

Workload	Year completed	Type of work	Number of bidders		Winner	Contract value
			Public	Private		
A-4 components	1993	Public	2	1	Public	\$7.7
A-4 position indicator	1993	Public	2	1	Public	0.2
Air generator	1993	Public	2	1	Public	0.8
AJB-3B	1994	Public	1	1	Private	4.0
AN/ARR-78	1993	Private	1	1	Private	3.1
QH-7	1993	Public	1	2	Private	0.7
ARC-159	1994	Private	1	2	Private	4.3
ARC-182	1993	Private	1	2	Public	0.4
ARC-182	1993	Private	1	2	Private	0.1
ARC-182	1993	Private	1	2	Private	4.2
ASN-50	1993	Public	1	2	Public	6.8
AWG-15 fire control set	1993	Private	1	1	Public	2.5
Displacement gyro	1994	Public	1	3	Private	1.6
F-14 canopy	1994	Public	1	1	Public	10.8
F-404 exhaust frame	1994	Public	1	2	Private	35.3
F/A-18 auxiliary power unit	1992	Both	1	1	Private	7.5
Gyro ASN-50/73	1994	Public	1	2	Private	2.5
ID-1329	1993	Public	1	2	Both	4.0
J-52 turbine stator	1993	Private	1	1	Private	1.0
LAU-7 launcher	1994	Both	2	1	Both	9.7
LAU-7 power supply	1994	Public	1	1	Public	7.2
P-3 alternator generators	1993	Public	1	2	Private	3.8
P-3 gyro	1993	Public	1	1	Public	3.9
S-3 actuator	1993	Public	1	1	Public	1.0
S-3 compress cylinder	1994	Public	1	0	Public	0.3
S-3B constant speed drive	1993	Public	3	0	Public	9.8
SH-60 ARC-174	1994	Both	1	1	Private	0.2
T-56 engine starter	1994	Public	1	0	Public	0.5
T-58 engine	1994	Public	1	1	Public	9.9

(continued)

**Appendix I
Public-Private Competitions for Aviation
Component Repairs**

Dollars in millions

Workload	Year completed	Type of work	Number of bidders		Winner	Contract value
			Public	Private		
T-700 fuel control	1994	Public	0	1	Private	3.1
T-700 fuel control	1994	Private	0	1	Private	2.1
T-700 fuel control	1994	Private	0	1	Private	0.4
T-700 rotor assembly	1994	Public	0	1	Private	46.7

**Appendix I
Public-Private Competitions for Aviation
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Related GAO Reports and Testimonies

Closing Maintenance Depots: Savings, Personnel, and Workload Redistribution Issues (GAO/NSIAD-96-29). (In draft as of Dec. 15, 1995.)

Depot Maintenance: The Navy's Decision to Stop F/A-18 Repairs at Ogden Air Logistics Center (GAO/NSIAD-96-31, Dec. 15, 1995).

Depot Maintenance (GAO/NSIAD-94-242R, July 28, 1994).

Navy Maintenance: Assessment of the Public and Private Shipyard Competition Program (GAO/NSIAD-94-184, May 25, 1994).

Depot Maintenance: Issues in Allocating Workload Between the Public and Private Sectors (GAO/T-NSIAD-94-161, Apr. 12, 1994).

Depot Maintenance (GAO/NSIAD-93-292R, Sept. 30, 1993).

Depot Maintenance: Issues in Management and Restructuring to Support a Downsized Military (GAO/T-NSIAD-93-13, May 6, 1993).

Navy Maintenance: Public/Private Competition for F-14 Aircraft Maintenance (GAO/NSIAD-92-143, May 20, 1992).

Navy Maintenance: Competing Vessel Overhauls and Repairs Between Public and Private Shipyards (GAO/NSIAD-88-109, Mar. 25, 1988).

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