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Report to the Chairman, Subcommittee on Readiness, Committee on Armed Services, House of Representatives

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NAVY MAINTENANCE

Public/Private Competition for F-14 Aircraft Maintenance

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National Security and
International Affairs Division

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The Honorable Earl Hutto
Chairman, Subcommittee on
Readiness
Committee on Armed Services
House of Representatives

Dear Mr. Chairman:

This report responds to your request that we examine the Naval Aviation Depots' airframe repair program. We reviewed the results of public/private competition for F-14 aircraft depot maintenance and found that while the competition program has been successful in reducing F-14 overhaul costs, management improvements are needed.

We are sending copies of this report to the Chairmen, Senate and House Committees on Armed Services and on Appropriations, Senate Committee on Governmental Affairs, and House Committee on Government Operations; the Director, Office of Management of Budget; and the Secretaries of Defense and the Navy.

Please contact me on (202) 275-6504 if you or your staff have any questions concerning this report. Major contributors are listed in appendix II.

Sincerely yours,

Martin M Ferber
Director, Navy Issues

Executive Summary

Purpose

One of the more significant developments in the Navy's $2 billion aviation depot maintenance program has been the introduction of public/private competition. The competition program was established in fiscal year 1988, with the approval of the Congress, to reduce costs by allowing the Naval Aviation Depots and private contractors to directly compete for work. Overhaul of the F-14 airframe was the first major maintenance work competed under this program.

At the request of the House Committee on Armed Services, Subcommittee on Readiness, GAO reviewed the F-14 competition program to (1) determine whether the program has resulted in reduced F-14 overhaul costs, (2) evaluate post award administration of the program, and (3) determine whether the costs of competition overhauls were comparable to the costs of noncompetition overhauls.

Background

Prior to the public/private competition program, most depot-level maintenance for the Navy's first line aircraft was automatically assigned to the Navy depots. The depots were paid a budgeted price for each airframe overhaul based on labor standards and past experience. Under the competition program, the price to perform selected overhauls is determined by the market forces of open competition by allowing private contractors to bid against the depots. The depots won the F-14 competition because their bid was considered to offer the best value to the government. Between fiscal years 1989 and 1991, the depots completed 128 F-14 overhauls at a cost of $171 million, of which 36 were competed and 92 were not. Detailed cost information was available on the first 24 competed overhauls. To ensure that the depots would retain a core overhaul capability for support of military contingencies, not all overhauls were included in the F-14 competition program.

The Navy plans to expand its public/private competition program over the next 3 years to meet the savings goal of a Defense Management Review initiative. Through fiscal year 1995, the Navy plans to save over $550 million through increased public/private competition for aviation depot maintenance on eight types of aircraft and four types of engines.

Results in Brief

The public/private competition program provided an incentive for the Navy depots to streamline production processes and minimize costs, which has helped reduce the Navy's F-14 overhaul costs. Average overhaul costs, adjusted for inflation, have declined about 23 percent since fiscal year 1987, the year before the start of the program. As a result, the Navy's plan to subject additional repair work to public/private competition has the potential to significantly reduce the Navy's total depot maintenance costs.

More effective administration of the F-14 competition program would have resulted in even more savings. On the first 24 overhauls, the depots incurred more costs to perform the work than had been approved by the contract administrator. The cost overrun, which may exceed $6.9 million, was primarily caused by (1) inconsistent contract administration guidance, (2) a lack of top management attention to resolve problems, (3) contract disputes, (4) problems in the depots' cost accounting system, and (5) to some degree, depot inefficiency.

F-14 overhauls not under the competition program cost about 21 percent more than competition overhauls in fiscal year 1990. The cost difference was primarily caused by differences in the management and oversight applied to each overhaul program.

Principal Findings

Costs Have Declined

The average cost to overhaul both competed and noncompeted F-14 airframes has declined significantly since fiscal year 1987, the year before the competition program began. Using constant 1987 dollars, the overall average cost of an F-14 overhaul declined from $1.7 million in fiscal year 1987 to $1.3 million in fiscal year 1991, a reduction of about 23 percent.

The lower cost largely resulted from the incentive provided by the competition to minimize costs. For example, the depots took several steps to lower their costs, such as (1) identifying the most efficient process to accomplish each repair task, (2) developing new staffing requirements to ensure that the minimum number of people with the correct skill levels were assigned, and (3) making organizational changes that would focus on reducing overhead costs.

Administration Improvements Needed

The cost reduction would have been greater than 23 percent if the F-14 competition program had been administered more effectively. Actual costs incurred by the depots to overhaul competition F-14s have exceeded the amounts approved by the contract administrator. While all disputes and appeals have not been settled, it appears that the depots will incur a cost overrun of about $289,000 on each of the first 24 F-14 competition overhauls.

The difference between costs incurred and the amounts approved by the contract administrator has been largely caused by confusion within the Navy on how to administer the competition program. Specifically, there have been conflicting opinions over the processes that should be used to approve F-14 work tasks and to control payments for completed work. The absence of clear guidance and top management attention to resolve these administrative conflicts allowed this problem to continue until December 1991 (the final year of the F-14 competition program), when the Navy issued a new instruction that clarified its policy on administering public/private contracts won by the depots.

Other causes for the difference between costs incurred and the amounts approved by the contract administrator include contractual disputes; problems with the depots' cost accounting system; and, to some degree, depot efficiency in performing the overhauls, which was less than anticipated when the bid was prepared.

Differences in Managing Overhauls

Although some F-14 overhauls were not included in the competition program, the Navy's policy requires all F-14 overhauls, both competition and noncompetition, to be performed in the same manner and at the same approximate cost. While the depots do apply the same maintenance practices on both types of overhauls, there were significant differences in the average cost of competition and noncompetition overhauls. In fiscal years 1990 and 1991, for example, the average noncompetition F-14 overhaul cost about 21 percent and 8 percent, respectively, more than the average competition F-14 overhaul.

Navy headquarters officials said that the difference in average cost largely resulted from the different administrative processes used to manage competition and noncompetition overhauls. Specifically, the independent oversight provided by the contract administrator for competition overhauls played a major role in helping keep competition costs lower. Depot officials, however, stated that the cost difference was primarily caused by

older aircraft, which required more work, being overhauled under the noncompetition program. However, GAO's analysis of similar-aged F-14s overhauled under each program showed that the noncompetition overhauls still cost significantly more than the competition overhauls.

Recommendations

GAO recommends that the Secretary of the Navy direct the Commander, Naval Air Systems Command, to

- take appropriate steps to ensure that the new instruction on administering competitive awards won by the depots is successfully implemented.
- issue policy guidance stating that the same administrative oversight process will be applied to both the competed and noncompeted work.
- make improvements to the depots' cost accounting system.

Agency Comments

The Department of Defense agreed with GAO's findings and recommendations and stated that the Navy was implementing several corrective actions to provide additional discipline to the management and oversight of depot maintenance work. (See app.I.) These actions include (1) exploring the feasibility of holding periodic progress meetings to ensure compliance with the new instruction, (2) amending the new instruction to require the same administrative oversight for both competed and noncompeted work, and (3) modifying the cost accounting system to allow labor and material costs to be tracked to individual work requests.

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Abbreviations

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

Introduction

Public/Private Competition

One of the more significant developments in the Navy's aviation depot maintenance program over the past few years has been the introduction of public/private competition. The competition program was initiated in fiscal year 1988, with the approval of the Congress, to improve performance and reduce depot maintenance costs by allowing the Naval Aviation Depots (NADEPs) and private contractors to directly compete for work. Some major repair work automatically assigned to the NADEPs now, for the first time, would be assigned to the bidder offering the best value to the government. Also, the NADEPs would be allowed to compete for some work that had previously been competed only among private sector contractors.

Depot-level maintenance for the Navy's first line aircraft has traditionally been performed at the NADEPs, which operate under the Naval Air Systems Command (NAVAIR). The six NADEPs — which employ about 22,000 civilians — overhaul, upgrade, and repair aircraft such as the F-14 Tomcat, the A-6 Intruder, the F/A-18 Hornet, and the P-3 Orion. The NADEPs repair the airframes, engines, and components associated with the aircraft, and provide other engineering and logistics support services to the Navy. As shown in table 1.1, the NADEPs' overall costs for fiscal year 1991 were about $2.1 billion, slightly higher than the costs for fiscal year 1990.

Table 1.1: NADEP Costs by Program

Dollars in millions

Program	1990	1991
Airframes	$493.4	$474.5
Engines	232.0	254.1
Components	711.8	754.4
Missiles	6.9	6.3
Other support	559.4	575.4
Total	**$2,003.5**	**$2,064.7**

The 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. 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. The same maintenance practices are applied to both competition and noncompetition overhauls.

The F-14 competition package consisted of 4 F-14 overhauls for the first year of the contract and 20 overhauls a year for 4 subsequent years. The package also gave the Navy an option to add up to five overhauls each year under the competition program.

The Navy received three bids during the solicitation for the competition package. In addition to the Navy's bid, which reflected an average cost for the Norfolk and North Island NADEPs, two private contractors bid on the work. Because the NADEPs' bid offered the best value to the government, NAVAIR awarded the competition package to the two NADEPs. The first F-14 airframes under the competition program began overhaul near the end of fiscal year 1988, and the last airframes under the 5-year contract period will begin overhaul before the end of fiscal year 1992. For fiscal years 1989, 1990, and 1991, the Norfolk and North Island NADEPs completed 36 F-14 overhauls under the competition program. During the same period, the two NADEPs completed 92 F-14 overhauls that were not under the competition program, for a total of 128 overhauls. The total cost of these overhauls was $171 million.

In addition to the F-14 airframe overhauls, the Navy has subjected other aviation depot work to public/private competition. For example, in fiscal year 1988, a public/private competition for an avionics upgrade on the P-3 aircraft was won by the Jacksonville and Alameda NADEPs. In fiscal year 1991, a public/private competition for H-2 helicopter maintenance was won by the same private contractor that had been overhauling the helicopter in prior years. The Pensacola NADEP had also bid.

Future Competition Plans

To meet the savings goal of a Defense Management Review initiative on aviation depot maintenance, NAVAIR plans to greatly expand the public/private competition program over the next 3 years. In response to the initiative, NAVAIR developed a plan that calls for reducing depot costs by $1.2 billion through fiscal year 1995. Of the plan's total savings, over $550 million is projected to result from increased public/private competition.

Essentially, the NAVAIR plan assumes that most airframe and engine overhaul work above the minimum levels required to support the depot industrial base will be subject to competition. The plan also assumes that competition will result in a 20-percent savings. The Navy recognizes that the amount of depot maintenance work to be competed and the associated

savings will be lower than planned if future budget decisions reduce the total force size or the maintenance funding.

Table 1.2 summarizes NAVAIR plans for future major competitions for depot maintenance on airframes and engines.

Table 1.2: Planned Public/Private Competition Awards

	1992	1993	1994
Airframe			
F/A-18	X		
S-3		X	
P-3	X		
A-6		X	
E-2/C-2		X	
A-4	X		
T-2			X
H-60		X	
Engines			
T-56		X	
TF-34			X
F-404		X	
J-52	X		

Although not listed in the schedule for future competition, Navy officials stated that the F-14 overhaul work probably will be re-competed when the current program is completed at the end of fiscal year 1992.

Objectives, Scope, and Methodology

Because we have previously issued reports on the NADEPs' aviation component and engine repair programs,[1] the Chairman, Subcommittee on Readiness, House Committee on Armed Services requested that we review the NADEPs' airframe repair program. The introduction of public/private competition for depot maintenance work has been one of the more significant changes affecting the airframe program; therefore, we focused our analysis on the competition program.

[1]Navy Maintenance: Aviation Component Repair Program Needs Greater Management Attention (GAO/NSIAD-89-171, July 6, 1989); and Navy Maintenance: Improvements Needed in the Aircraft Engine Repair Program (GAO/NSIAD-90-193BR, June 18, 1990).

Specifically, our objectives were to (1) determine whether F-14 overhaul costs have been reduced since the public/private competition program began, (2) evaluate the post award administration of the F-14 competition program, and (3) determine whether the costs of competed F-14 overhauls were comparable to the costs of noncompeted overhauls during the same repair period.

We performed detailed audit work at the two organizations that manage the F-14 competition program: the Naval Air Systems Command, Washington, D.C., and its subordinate office, the Naval Aviation Depot Operations Center, Patuxent River, Maryland. We also performed detailed audit work at the two NADEPs that overhaul F-14 aircraft: the Norfolk NADEP in Norfolk, Virginia, and the North Island NADEP in San Diego, California. At each location visited, we interviewed responsible agency personnel and reviewed applicable policies, procedures, and documents.

To determine whether the public/private competition reduced the cost of F-14 overhauls, we compared the cost of F-14 overhauls before and after the competition effort. Fiscal year 1987 was used as the base year, since it was the year immediately preceding the start of the competition program. Our analysis included costs of all completed F-14 overhauls, both competition and noncompetition. We also considered known factors other than public/private competition that could have affected F-14 overhaul costs. We adjusted all F-14 overhaul costs to constant fiscal year 1987 dollars to account for inflation.

We used cost data reported by the NAVAIR Industrial Financial Management System for our analysis. This standardized, automated cost accounting system provides the Navy's official cost information for NADEP operations. We did not assess the reliability of the data.

To evaluate the post award administration of the F-14 competition program, we reviewed NAVAIR policies and guidance on competition awards, examined other pertinent documents and correspondence, and interviewed key officials involved in administration of the competition award. We also compared actual costs incurred by the NADEPs for completed competition overhauls with the amounts approved by the contract administrator and explored reasons for differences.

To determine cost comparability of competition and noncompetition F-14 overhauls, we analyzed and compared actual costs incurred for each type of overhaul since the competition program began. We interviewed NAVAIR

and NADEP officials to identify differences in the way competition and noncompetition overhauls are managed and to determine reasons for the differences.

Because F-14 overhaul work may be re-competed, the Navy considers the NADEPs' actual cost information on competition overhauls to be business-sensitive. Thus, this report does not disclose actual costs of competition overhauls. Instead, we discuss differences between (1) actual costs and amounts approved for payment and (2) average competition and noncompetition overhaul costs.

Our review was made between June 1991 and February 1992 in accordance with generally accepted government auditing standards.

F-14 Overhaul Costs Have Declined

The average cost to overhaul an F-14 airframe has declined significantly since fiscal year 1987, the year before the competition program began. Using constant 1987 dollars, the average cost of an F-14 overhaul declined from $1.7 million in fiscal year 1987 to $1.3 million in fiscal year 1991, a reduction of about 23 percent.

Factors other than public/private competition, such as accounting changes and aircraft parts funding changes, have contributed to reducing F-14 overhaul costs. However, we believe the competition program itself has been a major factor in reducing costs. The program provided the impetus for the NADEPs to streamline the F-14 overhaul process, to attempt to ensure that only necessary work was performed, and to focus on minimizing costs. As a result, we believe that the Navy's plans to compete additional airframe and engine repairs in the future have the potential to significantly reduce the Navy's total depot maintenance costs.

F-14 Overhaul Costs Since 1987

Our analysis of F-14 overhaul costs examined changes in the cost of the basic standard depot-level maintenance. In addition to the labor, material, and overhead costs associated with this work, we included certain overhaul costs that were not incurred directly by the NADEPs. For example, prior to a fiscal year 1989 change, many aircraft parts and components were purchased with separate supply funds and then provided to the NADEPs as government-furnished material at no cost. With the 1989 change, the NADEPs began paying directly for most of these parts and components. For consistency and comparability, we included all overhaul costs in each year regardless of the funding source.

We included all completed F-14 overhauls, both competition and noncompetition, in our analysis. We took inflation into account by adjusting all costs to constant fiscal year 1987 dollars.

Table 2.1 summarizes our F-14 overhaul analysis. Norfolk and North Island costs have been averaged together.

Table 2.1: Average F-14 Overhaul Costs Since 1987

Dollars in Thousands

Fiscal year	Overhauls completed	Average cost
1987	60	$1,690
1988	66	1,292
1989	57	1,392
1990	46	1,173
1991	25	1,314

As shown in table 2.1, the adjusted average cost of an F-14 overhaul decreased by $376,000 between fiscal years 1987 and 1991. Between these years, average material costs decreased 46 percent, average overhead costs decreased 16 percent, and average labor costs increased 16 percent.

Table 2.1 also shows that the total average cost increased by $141,000 from fiscal year 1990 to 1991. Navy officials stated that this increase was largely due to addtional work required to repair older aircraft. As aircraft get older, additional work is needed to replace more parts, correct more corrosion, and repair more electrical and hydraulic problems. Norfolk NADEP officials stated that the work required to overhaul F-14s has continued to increase as the average age of the aircraft has increased.

Competition Contributed to Reduced Costs

The competition program itself was a major cause of the decline in F-14 overhaul costs. NADEP officials stated that, when the competition program first began, they were not sure that the NADEPs would win the competition. If the NADEPs lost, they knew that many jobs would be eliminated because of the drop in work. With this in mind, the NADEPs took several steps to lower costs in order to submit the lowest possible bid.

To illustrate, in preparing their competition bid, the NADEPs carefully evaluated the standard depot-level maintenance specifications to ensure that they would only perform required repair work and would eliminate any 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 F-14 overhaul process. Norfolk and North Island also went from a two-shift operation to a one-shift operation and reduced the number of personnel assigned to the program. Norfolk, for example, reduced F-14 production staff by over 100 people.

The NADEPs made other changes to increase cost awareness and control. For example, they increased the number of cost centers to provide better visibility of production overhead costs and made cost center managers responsible for controlling these costs. They also reviewed general overhead costs to eliminate any unnecessary expenses.

The Norfolk NADEP generally went further than the North Island NADEP in changing the way it had historically overhauled F-14s. For example, Norfolk expanded the number of cost centers from 4 to 37, while North Island only added 1 cost center to separate F-14 costs from other airframe overhaul costs. The expanded cost centers at Norfolk include centers for such functions as hydraulics, machining, and painting. Navy officials told us that Norfolk was more aggressive in scrubbing costs and improving efficiency.

Because of these additional efforts and because of lower average labor costs, Norfolk has been more successful than North Island in minimizing F-14 overhaul costs. For example, in fiscal year 1990, Norfolk's adjusted average F-14 overhaul cost was about $1.0 million, whereas North Island's adjusted average was about $1.4 million. The impact of this difference will be eliminated in the future because in 1991 NAVAIR decided to overhaul all F-14s at the Norfolk NADEP.

Other Factors Contributed to Lower Costs

Although the organizational and efficiency changes brought about by competition have been a major cause in reducing F-14 overhaul costs, factors other than competition have also contributed to lower costs. Specifically, accounting changes in the methods the NADEPs use to allocate general overhead costs have caused declines in reported F-14 overhaul costs since fiscal year 1987. Also, a change in funding for many aircraft parts may have contributed to reduced F-14 overhaul costs.

Accounting Changes

Prior to fiscal year 1989, the Norfolk and North Island NADEPs allocated general overhead costs on the basis of direct labor hours incurred by a cost center. However, at the recommendation of an accounting firm that was providing consulting services to the NADEPs, Norfolk and North Island began allocating general overhead costs on the basis of total costs incurred. For example, a cost center that incurred greater labor and material costs than another cost center would be allocated a greater portion of general overhead costs, regardless of the number of labor hours incurred.

Although the new accounting method is an acceptable accounting practice, it resulted in a greater share of general overhead costs being allocated to engine and component repair cost centers and less overhead being allocated to airframe repair cost centers. This was because engine and component cost centers had higher total costs than airframe cost centers.

Another 1989 accounting change concerning transfers of certain general overhead costs among the cost centers also resulted in benefiting airframe cost centers at the expense of engine, component, and other cost centers.

Table 2.2 shows our estimate of the impact of these accounting changes on the reported cost of all F-14 overhauls. To make the estimate, we recomputed F-14 costs for each year using the same accounting methods used in fiscal year 1987.

Table 2.2: Impact of Accounting Changes on Average F-14 Overhaul Costs

Dollars in Thousands

Fiscal year	Overhauls completed	Cost as reported	Cost with consistent accounting	Difference
1987	60	$1,690	$1,690	$0
1988	66	1,292	1,293	1
1989	57	1,392	1,516	124
1990	46	1,173	1,380	207
1991	25	1,314	1,412	98

As shown in table 2.2, when consistent accounting methods were used, average F-14 overhaul costs declined from $1.690 million to $1.412 million or about 16 percent between fiscal years 1987 and 1991. Although this percentage reflects a smaller decrease in F-14 overhaul costs than reported with the accounting changes, the reduction is still significant.

Change in Funding Aircraft Parts

A fiscal year 1989 change in the Navy's method of funding many aircraft parts and components may have had an impact on reducing F-14 overhaul costs. Prior to the change, many aircraft parts were paid with supply funds and provided to the NADEPs as government-furnished material. Because the NADEPs did not directly pay for this material, Navy officials told us that the NADEPs often viewed these parts as free and did not always try to minimize these costs.

With the funding change, the NADEPs had to pay for the parts as they were used. Navy officials stated that as the material costs became more visible, NADEP personnel became more conscious of material costs and developed strategies for reducing costs. For example, the NADEPs found that they could repair and reuse some parts at a much lower cost than if they bought new parts.

Since the funding change affected all types of aircraft, we analyzed material costs before and after the change for the F-14 and other aircraft types (A-6, P-3, S-3, and others) to determine whether we could quantify the impact of the change. We found that material costs varied significantly among the aircraft types. Some aircraft types, including the F-14, experienced decreased material costs and others, such as the P-3, experienced increased costs.

Thus, while the funding change did provide increased visibility of material costs and perhaps greater motivation to minimize these costs, the direct impact of the change and its contribution, if any, to reduced F-14 overhaul costs cannot be quantified.

Conclusions

The cost to overhaul F-14 airframes has decreased significantly since fiscal year 1987, the year before the public/private competition program started. While other factors such as changes in accounting methods have contributed to this decline, we believe the public/private competition program itself was a major factor in reducing overhaul costs. Because of the competition program, the NADEPs streamlined the overhaul process, attempted to ensure that only necessary work was performed, and focused on controlling costs.

Considering the success achieved by the competition program in helping to lower F-14 overhaul costs, the Navy's plans to compete additional airframe and engine repairs in the future have the potential to significantly reduce the Navy's total depot maintenance costs.

Improvements Needed in Competition Administration

Although successful in helping reduce the average cost of a F-14 overhaul, the competition program has not been as successful from a contractual or administrative perspective. Since the program began, actual F-14 overhaul costs have exceeded the amounts approved for payment by the contract administrator. As of January 1992, the overhaul costs for the first 24 competition aircraft exceeded the amounts approved by the contract administrator by $6.9 million, or about $289,000 on each aircraft.

The difference between the costs incurred and the amounts approved has been caused by several factors, including (1) inconsistent contract administration guidance, (2) lack of top management attention to resolving contract administration problems, (3) contract disputes, (4) problems with the NADEPs' cost accounting system, and (5) to some degree, NADEP inefficiency.

Although the Navy has begun to address these problems by issuing new guidance on administration of competition awards won by the NADEPs, closer management attention will be needed to ensure that the intent of the guidance is successfully implemented. Modifications to the NADEPs' cost accounting system also are needed to help prevent future contractual disputes and to provide an improved tool for monitoring NADEP efficiency.

Administration of the F-14 Competition Program

Prior to competition, NAVAIR administered the F-14 and other airframe overhaul programs performed by the NADEPs through fixed-price project orders. Under this arrangement, NAVAIR and the NADEPs jointly developed a fixed-price budget estimate for each type of airframe overhaul on the basis of labor standards and past experience. The fixed-price estimates represented the expected average cost to overhaul each type of airframe in a given fiscal year. As each overhaul began, NAVAIR would provide the NADEP with funding equal to the budgeted fixed-price estimate for the airframe. The NADEP would then perform the overhaul by completing certain tasks on every airframe and by identifying and completing additional work on each particular airframe, depending on its condition.

Regardless of the actual amount of labor, material, and overhead costs incurred by the NADEP in completing an overhaul, the fixed-price estimate was received as revenue. Thus, a gain or loss could occur on a given overhaul. However, since the fixed-price estimate for each airframe type represented the average expected overhaul cost, the goal was for the NADEP to break even on all overhauls performed during a fiscal year.

When the public/private competition program began, NAVAIR recognized that changes would be needed in the method used to administer F-14 overhauls. If a private contractor won the competition, a formal contract would be executed, and standard federal acquisition regulations used for most government contracts would apply to the contractor. Also, a contract administration function would be established to oversee the contract and resolve any disputes.

If the NADEPs won the competition, changes would be needed because of the way the competition solicitation was written. Instead of requesting a total fixed-price bid for each F-14 overhaul, the solicitation requested the bidders to develop (1) a fixed-price bid for required basic work performed on every airframe, (2) a list of fixed-price bids for specific repair tasks that may or may not be needed on a particular airframe, and (3) a fixed labor rate bid for other required repair work that could not be specifically identified in advance. This type of solicitation set up the need for someone to review and approve the additional work required beyond the basic work performed on every airframe—generally called over and above work.

After the NADEPs won the F-14 competition, NAVAIR made the following decisions on the administration of the competition overhauls.

- NADEP funding for competition overhauls was provided through project orders that authorized funding equal to the expected average total cost of each overhaul. This cost was based on the NADEPs' bid prices.
- A procuring contracting officer position was established at NAVAIR's subordinate command, the Naval Aviation Depot Operations Center, with the responsibility for financial oversight, including resolving contract disputes and requests for adjustments.
- An on-site administrative project officer position was established at the Norfolk and North Island NADEPs to represent the NAVAIR F-14 program office in overseeing the competition overhauls. The administrative project officer was responsible for negotiating and approving all needed over and above work to be performed by the NADEP on each competition aircraft, and tracking funds he has approved for payment on each competition aircraft.
- The NADEPs were responsible for (1) performing the basic required work on each airframe; (2) documenting specific needed over and above work; (3) negotiating with the administrative project officer for the number of labor hours needed to perform this work; and (4) performing the work, once approved. The NADEPs were expected to perform all competition work within the prices contained in their successful competition bid.

Actual Costs Exceed Approved Amounts

Although final settlement has not been made on the first 24 completed F-14 competition overhauls, it appears that the NADEPs will incur a cost overrun on the work. Table 3.1 shows the potential overruns, based on the difference between actual costs incurred by the Norfolk and North Island NADEPs and the amounts approved for payment by the contract administrator. In this report, when both the procuring contracting officer and the administrative project officer perform a function, we use the term "contract administrator."

Table 3.1: Potential Cost Overruns on F-14 Competition Overhauls

Dollars in millions

NADEP	Competition overhauls completed	Potential cost overrun
Norfolk	12	$2.1
North Island	12	$4.8
Total	**24**	**$6.9**

According to Navy officials, the cost overrun probably will be less than $6.9 million because open disputes and requests for adjustments may be decided in favor of the NADEPs. For example, the officials stated that NAVAIR probably will approve an additional payment of about $435,000 for an overhead cost variance that is considered beyond the control of the NADEPs.

Some smaller amounts are also in dispute. But even if all disputes and requests for adjustments are decided in favor of the NADEPs, it does not appear that the cost overrun on the first 24 competition F-14 overhauls will be substantially reduced. Ultimately, overruns in this program must be covered from financial gains in other programs or from direct congressional appropriations.

Factors Causing Costs to Exceed Approved Amounts

Several factors have contributed to the difference between the actual costs incurred by the NADEPs and the amounts approved for payment by the contract administrator. A significant portion of the difference has been caused by continuing differences within the Navy about whether the competition overhauls should be administered like a contract with a private contractor or like a project order similar to other NADEP work. Inconsistent guidance and a lack of top management direction from NAVAIR has allowed these differing opinions to continue. Other reasons for costs exceeding approved amounts include contractual disputes, problems with the NADEPs'

cost accounting system, and, to some degree, NADEP inefficiency in performing the work.

Differing Opinions Over Competition Administration

Since the NADEPs won the F-14 competition in fiscal year 1988, there have been differing opinions within the Navy about how the F-14 competition award should be administered. The F-14 program office at NAVAIR, the procuring contracting officer at the Naval Aviation Depot Operations Center, and the on-site administrative project officer have attempted to administer the competition award in the same manner as a contract awarded to a private company. For example, the administrative project officer does not automatically approve all funds authorized for each competition overhaul. Instead, the officer initially approves only the amount needed to perform the work required on every airframe. Then, as the overhaul progresses, the officer reviews, negotiates, and approves all over and above work requests on an individual basis. The amount approved for the over and above work is considered to be the amount that should be paid to the NADEP.

On the other hand, the NADEPs have maintained that the F-14 competition award should not be administered like a contract but rather like a project order. Thus, the NADEPs believe they should be paid up to the total amount authorized in the project order regardless of the amount approved by the administrative project officer. Although NADEP personnel generally complied with the administrative project officer's process for documenting and negotiating needed over and above work, NADEP personnel told us that the approval process was time-consuming and unnecessary.

Because of their view that the competition overhauls should be treated under project order rules, NADEP officials showed little concern when actual costs were not in line with amounts approved by the administrative project officer. In addition, Norfolk NADEP officials stated that in some cases, over and above work was completed without obtaining approval from the administrative project officer. The officials also stated that if the administrative project officer and the NADEP reached an impasse on the number of labor hours required for a particular over and above work request, the NADEP normally would perform the work, incur more labor hours and costs than approved, but not appeal the difference to the procuring contracting officer, the next level, for resolution.

Following through on their view that the competition work should be administered like a project order, the NADEPs submitted final bills for the

first 24 completed aircraft that were higher than the amount approved by the administrative project officer. The Norfolk and North Island NADEPs submitted final bills that were $4.3 million greater than the amount approved for the 24 aircraft. Because the funds were authorized by project orders and the amount billed was slightly less than the maximum authorized, NAVAIR paid the amount billed.

Officials at Norfolk and North Island told us that the amount billed was what they felt could be justified on the basis of the work performed and the actual costs incurred. The amount approved by the administrative project officer was not considered a limiting factor by the NADEPs in their final billing.

The administrative project officer and the procuring contracting officer believe that the NADEPs should not have billed or should not have been paid for amounts in excess of what they had approved. NAVAIR officials stated that the NADEPs will have to return funds that are in excess of the amounts finally determined as just and equitable after all disputes and requests for adjustments have been settled.

Inconsistent Guidance and Lack of Direction

The differing opinions have continued because of inconsistent guidance and lack of top management direction on how the F-14 competition overhauls should be administered. The NADEPs cite the following points to support their view that the competition work should be administered under project order rules.

- The original competition solicitation included a clause stating that "no contract will be awarded if a naval aviation depot facility is selected. Should the Government select a naval aviation depot facility, the Government would 'assign' rather than 'award' a project order."
- Navy Comptroller Instruction 7600.28, dated July 31, 1987, discusses public sector bids for work subject to public/private competition. The instruction states that "the negotiated award price will be considered a fixed-price" for the execution of the competitive workload.
- The competition F-14 overhauls were assigned through project orders that contained no amendments, attachments, or other indications that they were to be administered any differently from other project orders.

On the other hand, the F-14 program office, the procuring contracting officer, and the administrative project officer cite the following points to

support their view that the competition work should be treated like a contract, using normal contract administration rules.

- An August 11, 1988, NAVAIR memorandum called for implementation of a "clear, independent chain-of-command for procuring contracting officer-type (PCO) and contract administration service-type (CAS) functions" for F-14 work assigned under the public/private competition program.
- In December 1988, the commanding officer of the Norfolk NADEP signed a memorandum of agreement requiring that Norfolk and North Island obtain administrative project officer approval prior to commencement of over and above work.
- A February 9, 1989, memorandum from the NAVAIR commander stated that the project order was used between NAVAIR and the NADEPs "in lieu of a contract, yet the equivalent force and effect results." This memorandum also stated that "Management of 'post-award' contractual performance requirement at NAVAVNDEPOT's [NADEPs] shall be accomplished in the same manner as if the award had been made to a private enterprise."

The long-time absence of a NAVAIR instruction on post award administration of competition work won by the NADEPs was also a factor in the differing opinions. Various drafts of such an instruction have been available since 1988. However, a final instruction was not issued until December 6, 1991, after the start of the final year of the 5-year competition award. The new instruction clearly states NAVAIR policy that public/private competition awards will be administered in the same manner as a contract.

Contract Disputes

Disputes between the NADEPs and the administrative project officer over contractual matters also have contributed to the difference between the actual costs incurred and the amounts approved for payment. Although many disputes have been settled, several remain open.

For example, the NADEPs stated that actual F-14 overhead costs have been greater than anticipated in the bid price because of outside factors. In developing overhead estimates for their bid, the NADEPs used NAVAIR projections of the total workload that would be assigned to the NADEPs during the contract execution years. However, the actual workload assigned to the NADEPs was less than the projections, thereby creating a workload variance. Although the NADEPs' total overhead costs did decline as workload decreased, overhead costs declined at a slower rate. Thus, the workload variance resulted in more overhead being charged to each

program than planned. NAVAIR estimates the extra overhead to be about $435,000.

Although agreeing that the NADEPs had a valid point, the contract administrator disapproved payment of the extra overhead cost because the issue was outside the terms of the contract. According to Navy officials, the NADEPs plan to appeal this decision to NAVAIR headquarters and the issue probably will be decided in favor of the NADEPs.

Another dispute between the Norfolk NADEP and the administrative project officer involved the approval of material costs associated with over and above work requests. The officer only approved reimbursable material costs that exceeded initial estimates when the NADEP could identify the specific over and above work requests requiring the extra material. Because the NADEP's cost accounting system did not track costs to this detailed level, the NADEP could not demonstrate that it should be paid for the costs incurred for some reimbursable material. On the other hand, the initial competition solicitation and subsequent award did not explicitly require that the NADEP track costs to the detailed level expected by the administrative project officer. In December 1991, this dispute was settled when the Norfolk NADEP and the administrative project officer agreed that Norfolk should be paid an additional $287,000 for reimbursable material.

The administrative project officer told us that other minor disputes, such as costs to prevent engine damage due to foreign objects, certain corrosion prevention costs, and environmental costs, have not been completely resolved. The officer also told us that some of these issues could eventually be appealed to NAVAIR for final resolution.

NADEP Efficiency Less Than Planned

Another factor causing the actual costs to exceed the amounts approved by the administrative project officer has been lower NADEP efficiency than anticipated when the competition bid was prepared.

At the Norfolk NADEP, for example, actual costs incurred for the fixed-price portion of the overhaul work performed on every airframe averaged 13 percent more than the price bid for this work. While the disputed areas, discussed previously, could account for some of this difference, Norfolk officials stated that some of the difference was because the artisans' experience and skill level was less than they had estimated. The officials also stated that they could not easily measure what portion of the difference was due to inefficiency.

The difference at the North Island NADEP was more significant. Actual costs at North Island for the fixed-price portion of the overhauls averaged 121 percent more than the bid price. North Island officials stated that a large portion of the difference was because the NADEP was less efficient than they had estimated. They also could not provide accurate measurements of this inefficiency.

NADEP efficiency in performing the variable part of the overhauls, the over and above work, also cannot be easily measured because the cost accounting system does not track labor costs to the specific over and above work request. Such tracking would allow the NADEPs to monitor the quality of labor-hour negotiations with the administrative project officer as well as the efficiency of the execution of over and above work. Navy officials told us that the NADEPs have begun to consider how to modify the cost accounting system to achieve these results.

Conclusions

Although the F-14 competition program has been successful in helping to reduce average overhaul costs, problems have occurred in the administration of the competition work. The actual costs incurred by the NADEPs in performing competition overhauls have exceeded amounts approved by the contract administrator. The differences have been primarily caused by (1) inconsistent contract administration guidance, (2) lack of top management attention by NAVAIR to resolve contract administration problems, (3) contract disputes, (4) problems with the NADEPs' cost accounting system, and (5) to some degree, NADEP inefficiency.

The Navy can minimize overruns by ensuring that the competition work is performed as efficiently as possible. NAVAIR has begun to address the competition administration problems by issuing new guidance on administering competition awards won by the NADEPs. The new instruction should resolve the differing opinions about how competition awards won by the NADEPs are to be administered. Even with the new instruction, top management leadership by NAVAIR is essential to ensure that the policy is consistently applied throughout the organization. We believe that closer management attention will be needed to ensure that the intent of the guidance is successfully implemented.

In addition, we believe that certain contractual disputes can be reduced by modifying the NADEPs' cost accounting system to allow tracking of costs to specific over and above work requests. The accounting change would also

provide management with an improved tool for monitoring NADEP efficiency.

Recommendations

We recommend that the Secretary of the Navy direct the Commander, Naval Air Systems Command, to take appropriate steps – such as periodic progress meetings with the key parties involved in competition efforts – to ensure that the new guidance on administration of competitive awards won by the NADEPs is successfully implemented and that all parties adhere to the guidance. We also recommend that the Commander follow through on the NADEPs' plans to modify the cost accounting system to allow labor and material costs to be tracked to individual work requests.

Agency Comments

The Department of Defense (DOD) agreed with our recommendations and stated that the new instruction (NAVAIR Instruction 4200.35, issued December 6, 1991) provides revised administrative procedures for competition work by public activities. NAVAIR also has incorporated this guidance into requests for proposals for upcoming competitions. According to DOD, the Navy is exploring the feasibility of performing post award administration functions on all competition awards, including holding periodic progress meetings to ensure compliance with the NAVAIR instruction.

DOD stated that NAVAIR has directed modifications to the cost accounting system. The modifications will allow labor and material costs to be tracked to individual work requests, and are targeted for implementation by June 30, 1992.

Consistency Is Needed in Managing Overhauls

When the NADEPs won the F-14 competition, NAVAIR officials stated that all F-14 overhauls, both competition and noncompetition, would be performed in the same manner and at the same approximate cost. Although the NADEPs applied the same maintenance practices to both types of overhauls, there was a significant difference between the average cost of competition and noncompetition overhauls. In fiscal year 1990, for example, noncompetition F-14 overhauls cost about 21 percent more than competition F-14 overhauls.

NAVAIR officials said that the difference in average cost was largely caused by differences in the way the overhauls are administered. They stated that the independent oversight provided on competition overhauls by the administrative project officer had a positive impact on minimizing competition overhaul costs. On the other hand, NADEP officials believed the cost difference was primarily caused by older aircraft, which require more work and thus more cost, being overhauled under the noncompetition program. Our analysis of overhauls on F-14 aircraft that were approximately the same age showed that the noncompetition overhauls still cost significantly more than the competition overhauls.

For management consistency and cost control purposes, we believe the distinction between competition and noncompetition overhauls should be eliminated after a NADEP wins a competition, and all work should be administered in the same manner.

Differences in Managing Overhauls

When the competition program began, the Navy did not include all planned F-14 overhauls in the package subjected to competition. This ensured that even if the NADEPs lost the competition, they would still perform some overhauls each year to retain a core capability for repairing F-14s in support of military contingencies. After the NADEPs won the competition, however, the distinction between competition and noncompetition overhauls was no longer needed, and the Navy could have administered all overhauls under the procedures established for the competition program.

Instead, the Navy has continued the distinction by clearly identifying competition and noncompetition overhauls from the time the overhauls are scheduled until they are completed. Management at each level knows which aircraft are under which program. Separate administrative procedures have been established to oversee and control the work on each type of aircraft. Although a competition F-14 aircraft and a noncompetition F-14 aircraft physically may be side-by-side during overhaul, Navy

personnel follow one set of rules in administering the competition overhaul and a different set of rules in administering the noncompetition overhaul.

For competition overhauls, the on-site administrative project officer oversees the NADEP's execution of the overhaul work. This oversight includes reviewing, negotiating, and approving all requests for over and above work on each competition aircraft. Similar to a contractor, the NADEP is supposed to be paid only the amount approved by the administrative project officer. Also, the oversight provided by the administrative project officer is independent from NADEP influence because the officer represents the NAVAIR F-14 program office and does not report through the NADEP commanding officer.

On the other hand, noncompetition overhauls do not have an independent party reviewing and approving over and above work. NADEP personnel internally approve the over and above work to be performed on each airframe. Also, the NADEP is automatically paid the total budgeted fixed price for a noncompetition overhaul, regardless of the work required.

While the oversight and management of competition and noncompetition overhauls differs, Navy officials at all levels agreed that the NADEPs use the same maintenance specifications and repair procedures on all F-14 overhauls. Also, an Atlantic Fleet official stated that squadron personnel could not distinguish between F-14 overhauls completed under the competition and noncompetition programs.

Noncompetition Overhauls Cost More

We performed a cost comparison to determine whether there were differences in the cost of competition and noncompetition overhauls. We compared the average cost of competition and noncompetition F-14 overhauls completed by the Norfolk and North Island NADEPs in fiscal years 1990 and 1991. The costs were not factored for inflation because we did not compare costs between years. Table 4.1 shows that the average cost for noncompetition overhauls exceeded the average cost of competition overhauls.

Table 4.1: Average Additional Cost of Noncompetition Overhauls

Fiscal year/location	Overhauls completed		Average additional cost as a percentage of average competition cost
	Competition	Noncompetition	
1990			
Norfolk	12	15	21.5
North Island	9	10	22.7
Combined	21	25	21.2
1991			
Norfolk	10	3	19.1
North Island	4	8	2.7
Combined	14	11	8.6

As shown in table 4.1, noncompetition overhaul costs averaged 21.2 percent and 8.6 percent more than competition overhaul costs in fiscal years 1990 and 1991, respectively. Although the combined difference decreased to 8.6 percent in fiscal year 1991, the difference at the Norfolk NADEP continued to be significant with noncompetition overhaul costs averaging about 19 percent more than competition overhauls.

Reasons for Cost Differences

NAVAIR and NADAP officials had differing opinions on why noncompetition overhauls cost more than competition overhauls. NAVAIR officials believed the cost difference was caused by different administrative processes used for each type of overhaul. NADEP officials believed the difference was caused by older aircraft, which require more work, being overhauled under the noncompetition program.

Officials at NAVAIR and at its subordinate office, the Naval Aviation Depot Operations Center, stated that the independent oversight provided by the administrative project officer had a positive impact on minimizing competition overhaul costs. The officials stated that the officer attempted only to approve over and above work that is absolutely necessary. In addition, by negotiating with the NADEP for the number of labor hours needed to perform over and above work, the administrative project officer attempted to ensure that only the minimum necessary labor would be expended on the work. The officials stated that this process also provided an incentive for the NADEPs to focus on cost monitoring and control because the NADEPs are only supposed to be paid the amount approved by the contract administrator.

The NAVAIR officials also stated that because the NADEPs internally approved over and above work for noncompetition overhauls without

oversight from any independent source, there could be less discipline in the approval process for noncompetition overhauls.

NADEP officials did not believe that the increased oversight provided by the administrative project officer was a major reason that competition overhauls cost less than noncompetition overhauls. They stated that the primary difference was because older aircraft were routinely overhauled under the noncompetition program. They stated that older aircraft usually require more work than newer aircraft to replace parts, correct corrosion, and repair electrical and hydraulic problems.

The NADEPs use aircraft block numbers as a measure of age. During manufacture, successive block numbers are assigned to each group of aircraft manufactured to the same specifications. When specifications are changed to incorporate improvements, the block number normally changes. Thus, newer aircraft have higher block numbers.

For fiscal years 1989, 1990, and 1991, the average block number for F-14s inducted for overhaul under the competition program was higher than the block number for aircraft inducted under the noncompetition program. The average block number at Norfolk was 116 for competition overhauls and 97 for noncompetition overhauls. The average block number at North Island was 109 for competition overhauls and 94 for noncompetition overhauls. NADEP officials stated that the differences in block numbers alone were significant enough to cause the differences in average overhaul costs.

However, we performed a limited analysis to compare the average cost of aircraft that were overhauled under each program and were approximately the same age. Contrary to the NADEPs' belief, the results showed that even when the average age of overhauled F-14s was approximately the same, the noncompetition overhauls still cost significantly more than competition overhauls.

For example, at the Norfolk NADEP, we compared the average cost for all overhauls completed in fiscal years 1990 and 1991 that were block number 95 and below. Under the competition program, the Norfolk NADEP completed 5 such overhauls with an average block number of 82. Under the noncompetition program, Norfolk completed 12 such overhauls with an average block number of 87. The analysis showed that even though these competition overhauls were slightly older than the noncompetition

overhauls, the noncompetition overhauls cost an average of 24 percent more.

At the North Island NADEP, we compared costs for all F-14s completed in fiscal years 1990 and 1991 that were block numbers 85 or 90. The North Island NADEP completed 3 such overhauls under the competition program, with an average block number of 88, and 6 such overhauls under the noncompetition program, with an average block number of 89. Similar to the Norfolk NADEP, although the average age of the overhauled aircraft was approximately the same, the noncompetition overhauls cost an average of 26 percent more than the competition overhauls.

Conclusions

Although the same maintenance practices were used in overhauling both competition and noncompetition aircraft, there was a significant difference between the average cost of each type of overhaul. We agree with NAVAIR officials, who stated that the cost difference was largely caused by the independent oversight provided by the administrative project officer on competition overhauls. Although NADEP officials believe the cost difference was primarily caused by older aircraft being overhauled under the noncompetition program, our analysis of similar aged F-14s overhauled under each program showed that the noncompetition overhauls still cost significantly more.

For management consistency and control purposes, we believe the distinction between competition and noncompetition overhauls should be eliminated after a NADEP wins a competition, and all work should be administered in the same manner as the competition work. This will help ensure that the same oversight and scrutiny is applied to all overhauls in an effort to minimize costs.

Recommendation

We recommend that the Secretary of the Navy direct the Commander, Naval Air Systems Command, to issue policy guidance directing that the same administrative process be applied to both competed and noncompeted work.

Agency Comments

DOD agreed with our recommendation and stated that NAVAIR recognizes that formalized administrative procedures for both competitive and noncompetitive work would enhance the attainment of economic goals. NAVAIR will prepare an issue paper outlining the procedures necessary to implement the concurrent administration of both competitive and noncompetitive work. By June 30, 1992, NAVAIR plans to incorporate these procedures in the new competition instruction (NAVAIR Instruction 4200.35). For consistency and standardization, this instruction will be used for administering noncompetitive work as well as competitive work.

Comments From the Department of Defense

PRODUCTION AND LOGISTICS

ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, DC 20301-8000

April 28, 1992

(L/MD)

Assistant Comptroller General
National Security and
International Affairs Division
U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "NAVY MAINTENANCE: Public/Private Competition for F-14 Aircraft Maintenance," dated March 13, 1992 (GAO Code 394437), OSD Case 8997. The Department agrees with the report findings and recommendations.

The Navy actively sought opportunities and pursued the depot maintenance cost savings associated with the public/private competition initiative. The GAO review of the Navy F-14 Competition Program validated the savings achieved from competitive efforts and reinforced the Department plan to expand the program among all the Services. The review also proposed administrative processes and procedures to introduce additional discipline into the management and oversight of depot maintenance core workload, as well as workload under the competition program. The Navy is currently implementing the recommendations.

The detailed DoD comments on each finding and recommendation are provided in the enclosure. The Department appreciates the opportunity to comment on the draft report.

Sincerely,

Colin McMillan

Enclosure

GAO DRAFT REPORT - DATED MARCH 13, 1992
(GAO CODE 394437) OSD CASE 8997

"NAVY MAINTENANCE: PUBLIC/PRIVATE COMPETITION FOR F-14 AIRCRAFT MAINTENANCE"

DEPARTMENT OF DEFENSE COMMENTS

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FINDINGS

FINDING A: **Public/Private Competition**. The GAO reported that one of the more significant developments in the Navy aviation depot maintenance program over the past few years has been the introduction of public/private competition, initiated in FY 1988, with the approval of the Congress, to improve performance and reduce depot maintenance costs by allowing the Naval Aviation Depots and private contractors to directly compete for work. The GAO reported that the six Naval Aviation Depots, which employ about 22,000 civilians--overhaul, upgrade, and repair aircraft such as the F-14 Tomcat, P-3 Orion, the A-6 Intruder, and the F/A-18 Hornet. The GAO noted that the overall cost for the Naval Aviation Depots for FY 1991 was about $2.1 billion.

The GAO reported, in addition to the F-14 airframe overhauls, the Navy has subjected other aviation depot work to public/private competition, like the FY 1988 public/private competition for an avionics upgrade on the P-3 aircraft, won by the Jacksonville and Alameda Naval Aviation depots. The GAO explained that, to meet the savings goal of a Defense Management Review initiative on aviation depot maintenance, the Navy plans to greatly expand the public/private competition program over the next three years. The GAO reported that the Naval Air Systems Command has developed a plan that calls for reducing depot costs by $1.2 billion through FY 1995, with over $550 million projected to result from increased public/private competition. (pp. 10-15/GAO Draft Report)

Now on pp. 8-10

DOD RESPONSE: Concur.

FINDING B: **Competition Contributed to Reduced F-14 Overhaul Costs**. The GAO reported the average cost to overhaul an F-14 airframe has declined significantly since FY 1987, the year before the competition

ENCLOSURE

program began. The GAO noted, using constant 1987 dollars, the average cost of an F-14 overhaul declined from $1.7 million in FY 1987 to $1.3 million in FY 1991, a reduction of about 23 percent.

The GAO explained that while other factors have contributed to reducing F-14 overhaul costs, the competition program itself has been a major factor in reducing costs. The GAO observed that the program provided the impetus for the depots to streamline the F-14 overhaul process, to attempt to ensure that only necessary work was performed, and to focus on minimizing costs. The GAO concluded that the Navy plans to compete additional airframe and engine repairs in the future have the potential to significantly reduce the total Navy depot maintenance costs.

The GAO found that the adjusted average cost of an F-14 overhaul decreased by $376,000 between FY 1987 and FY 1991. The GAO also reported, however, that the total average cost increased by $141,000 from FY 1990 to 1991, due largely to additional work required to repair older aircraft.

The GAO reported that the Naval Aviation Depots took several steps to lower costs in order to submit the lowest possible bid, such as (1) the standard depot-level maintenance specifications were carefully evaluated to ensure that they would only perform required repair work and would eliminate any unnecessary tasks, (2) each required task was closely evaluated to ensure that the most efficient process would be used to accomplish the work, (3) 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 F-14 overhaul process, and (4) Norfolk and North Island also went from a two-shift to a one-shift operation and reduced the number of personnel assigned to the program. The GAO also reported that the depots made other changes to increase cost awareness and control, including increasing the number of cost centers to provide better visibility of production overhead costs and making cost center managers responsible for controlling costs. The GAO found they also reviewed general overhead costs to eliminate any unnecessary expenses. The GAO noted that Norfolk was more aggressive in scrubbing costs and improving efficiency. (pp. 18-22/GAO Draft Report)

Now on pp. 13-15

DOD RESPONSE: Concur.

FINDING C: **Accounting Changes Contributed to Lower Costs**. The GAO reported that a new accounting practice of allocating general overhead costs on the basis of total costs incurred by a cost center resulted in a greater share of general overhead costs being allocated to engine and component repair cost centers and less overhead being

allocated to airframe repair cost centers. The GAO noted that another 1989 accounting change concerning transfers of certain general overhead costs among the cost centers also resulted in benefiting airframe cost centers at the expense of engine, component, and other cost centers. The GAO observed that when consistent accounting methods were used, average F-14 overhaul costs declined from $1.690 million to $1.412 million or about 16 percent between FY 1987 and FY 1991. The GAO noted that, although this percentage reflects a smaller decrease in F-14 overhaul costs than reported with the accounting changes, the reduction is still significant. (pp. 22-24/GAO Draft Report)

Now on pp. 15-16

DOD RESPONSE: Concur.

FINDING D: **Changes In Funding Aircraft Parts**. The GAO reported that an FY 1989 change in the Navy method of funding many aircraft parts and components may have had an impact on reducing F-14 overhaul costs. The GAO explained that, prior to the change, many aircraft parts were paid for with supply funds and provided to the aviation depots as government-furnished material, and since the depots did not pay directly for the material, the depots often viewed the parts as free and did not always try to minimize the associated costs. The GAO observed, however, with the funding change, as the material costs became more visible, depot personnel became more conscious of material costs and developed strategies for reducing costs. The GAO concluded that, while the funding change did provide increased visibility of material costs and perhaps greater motivation to minimize these costs, the direct impact of the change and its contribution, if any, to reduced F-14 overhaul costs cannot be quantified. (pp. 24-25/GAO Draft Report)

Now on pp. 16-17

DOD RESPONSE: Concur.

FINDING E: **Improvements Needed In Competition Administration**. The GAO reported that, although successful in helping reduce the average cost of an F-14 overhaul, the competition program has not been as successful from a contractual or administrative perspective. The GAO found that, since the program began, actual F-14 overhaul costs have exceeded the amounts approved for payment by the contract administrator. The GAO noted, as of January 1992, the overhaul costs for the first 24 competition aircraft exceeded the amounts approved by the contract administrator by $6.9 million, or about $289,000 per aircraft.

The GAO reported that the F-14 program office at the Naval Air Systems Command, the procuring contracting officer at the Naval Aviation Depot Operations Center, and the on-site administrative

project officer--have attempted to administer the competition award in the same manner as a contract awarded to a private company. On the other hand, the GAO observed that the Naval Aviation Depots have maintained that the F-14 competition award should not be administered like a contract but rather like a project order. The GAO found that, although the Naval Aviation Depot personnel generally complied with the administrative project officer process for documenting and negotiating needed over and above work, Naval Aviation Depot personnel indicated that the approval process was time-consuming and unnecessary.

The GAO found that Naval Aviation Depot officials showed little concern when actual costs were not in line with amounts approved by the administrative project officer, because of their view that the competition overhauls should be treated under project order rules. The GAO also found that, in some cases, over and above work was completed without obtaining approval from the administrative project officer. The GAO reported that, if the administrative project officer and the Naval Aviation Depot reached an impasse on the number of labor hours required for a particular over and above work request, the depot normally would perform the work, incur more labor hours and costs than approved, but not appeal the difference to the next level, the procuring contracting officer, for resolution.

The GAO reported that the Naval Aviation Depots submitted final bills for the first 24 completed aircraft that were higher than the amount approved by the administrative project officer. The GAO found that the Norfolk and North Island Aviation Depots submitted final bills that were $4.2 million greater than the amount approved for the 24 aircraft. The GAO also reported that the administrative project officer and the procuring contracting officer indicated that the depots should not have billed or should not have been paid for amounts in excess of what they had approved. The GAO noted that Naval Air Systems Command officials stated that the depots will have to return funds that are in excess of the amounts finally determined as just and equitable after all disputes and requests for adjustments have been settled. (pp. 25-35/GAO Draft Report)

Now on pp. 18-22

DOD RESPONSE: Concur. The facts presented explain the differences in thinking concerning the administration of this competition. Since the GAO audit, the Naval Air Systems Command developed procedures to prevent the recurrence of the problems in interpretation identified in the audit. The Naval Air Systems Command has incorporated guidance into requests for proposals for upcoming competitions. That guidance clarifies the roles of administrative project officers, the depots, and the Naval Air Systems Command in administering assignments of work to the depots under public/private competition.

Now on pp. 22-23

FINDING F: **Inconsistent Guidance and Lack of Direction**. The GAO reported that differing opinions have continued because of inconsistent guidance and lack of top management direction on how the F-14 competition overhauls should be administered. The GAO found that the long-time absence of a Naval Air Systems Command instruction on post award administration of competition work won by the Naval Aviation Depots was a factor in the differing opinions. The GAO explained that, while various drafts of such an instruction have been available since 1988, a final instruction was not issued until December 6, 1991, after the start of the final year of the 5-year competition award. The GAO reported that the new instruction clearly states Naval Air Systems Command policy that public/private competition awards will be administered in the same manner as a contract. The GAO noted that the Naval Air Systems Command has begun to address the competition administration problems by issuing new guidance on administering competition awards won by the aviation depots. The GAO concluded, however, that even with the new instruction, top management leadership by the Naval Air Systems Command is essential to ensure that the policy is applied consistently throughout the organization. The GAO further concluded that closer management attention will be needed to ensure that the intent of the guidance is implemented successfully. (pp. 35-37/GAO Draft Report)

DOD RESPONSE: Concur.

FINDING G: **Contract Disputes**. The GAO reported that disputes between the Naval Aviation Depots and the administrative project officer over contractual matters have contributed to the difference between the actual costs incurred and the amounts approved for payment. The GAO noted that, although many disputes have been settled, several remain open. The GAO reported, for example, the Naval Aviation Depots indicated that actual F-14 overhead costs have been greater than anticipated in the bid price because of outside factors, resulting in more overhead being charged to each program than planned. The GAO reported that the extra overhead is estimated at about $435,000. The GAO found that, while the contract administrator agreed that the Naval Aviation Depots had a valid point, he disapproved payment of the extra overhead cost because the issue was outside the terms of the contract. The GAO noted that the Naval Aviation Depots plan to appeal this decision to Naval Air Systems Command headquarters and the issue probably will be decided in favor of the depots.

The GAO reported that another dispute between the Norfolk Naval Aviation Depot and the administrative project officer, involving the approval of material costs associated with over and above work

requests, was resolved in December 1991, when the Norfolk Depot and the administrative project officer agreed that Norfolk should be paid an additional $287,000 for reimbursable material. The GAO observed that other minor disputes, such as costs to prevent engine damage due to foreign objects, certain corrosion prevention costs, and environmental costs, have not been completely resolved and some eventually could be appealed to the Naval Air Systems Command for final resolution. (pp. 37-39/GAO Draft Report)

Now on pp. 23-24

DOD RESPONSE: Concur.

FINDING H: **Naval Aviation Depot Efficiency Less Than Planned**. The GAO reported that another factor causing the actual costs to exceed the amounts approved by the administrative project officer has been lower Naval Aviation Depot efficiency than anticipated when the competition bid was prepared. The GAO found, for example, at the Norfolk Naval Aviation Depot actual costs incurred for the fixed-price portion of the overhaul work performed on every airframe averaged 13 percent more than the price bid for this work. The GAO explained that, while the disputed areas discussed previously could account for some of this difference, Norfolk officials indicated that some of the difference was because artisan experience and skill levels were less than they had estimated. The GAO found that the difference at the North Island Naval Aviation Depot was more significant, with actual costs for the fixed-price portion of the overhauls averaging 121 percent more than the bid price, due mainly to lower efficiency than estimated. The GAO also reported that aviation depot efficiency in performing the variable part of the overhauls, the over and above work, also cannot be easily measured because the cost accounting system does not track labor costs to the specific over and above work request. The GAO noted that the Naval Aviation Depots have begun to consider how to modify the cost accounting system to achieve these results. (pp. 39-42/GAO Draft Report)

Now on pp. 24-25

DOD RESPONSE: Concur.

FINDING I: **Consistency is Needed In Managing Overhauls**. The GAO reported that when the Naval Aviation Depots won the F-14 competition, Naval Air Systems Command officials indicated that all F-14 overhauls, both competition and non-competition, would be performed in the same manner and at the same approximate cost. The GAO found, however, that, although the depots applied the same maintenance practices to both types of overhauls in FY 1990, non-competition F-14 overhauls cost about 21 percent more than competition F-14 overhauls. The GAO noted that Navy headquarters officials indicated that the difference in average cost was caused largely by differences in the way the overhauls are administered, with the independent oversight

provided on competition overhauls by the administrative project officer having a positive impact on minimizing competition overhaul costs.

The GAO reported that, except in its budget submission, the Navy has continued to clearly identify competition and non-competition overhauls from the time the overhauls are scheduled until they are completed. The GAO observed that (1) management at each level knows which aircraft are under which program, and (2) separate administrative procedures have been established to oversee and control the work on each type of aircraft. The GAO explained that, although a competition F-14 aircraft and a non-competition F-14 aircraft physically may be side-by-side during overhaul, Navy personnel follow one set of rules in administering the competition overhaul and a different set of rules in administering the non-competition overhaul. The GAO reported that for competition overhauls, the on-site administrative project officer oversees the Naval Aviation Depot execution of the work, and the oversight provided by the administrative project officer is independent from Naval Aviation Depot influence because the officer represents the Naval Air Systems Command F-14 program office and does not report through the Naval Aviation Depot commanding officer. The GAO also noted that the depot is supposed to be paid only the amount approved by the administrative project officer. In contrast, the GAO reported that non-competition overhauls do not have an independent party reviewing and approving over and above work on each airframe, and the Naval Aviation Depot is automatically paid the total budgeted fixed price for a non-competition overhaul, regardless of the work required. (pp. 43-45/GAO Draft Report)

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DOD RESPONSE: Concur. The Naval Aviation Depot is paid a fixed price for noncompetitive workload regardless of the amount of over and above work required and performed. For competitive workload, over and above work is paid in addition to the base price, but only as approved by the administrative project officer. It is anticipated that the cost of noncompetitive workload can be reduced by distinguishing between basic and over and above work; requiring the approval of the administrative project officer for over and above work; and by providing independent oversight.

FINDING J: **Non-Competition Overhauls Cost More**. The GAO found that non-competition overhaul costs averaged 21.2 percent and 8.6 percent more than competition overhaul costs in FY 1990 and FY 1991, respectively. The GAO explained that, although the combined difference decreased to 8.6 percent in FY 1991, the difference at the Norfolk Naval Aviation Depot continued to be significant with non-competition overhaul costs averaging about 19 percent more than competition overhauls.

The GAO reported that officials at the Naval Air Systems Command indicated that the independent oversight provided by the administrative project officer had a positive impact on minimizing competition overhaul costs. The GAO explained that the officer attempted only to approve over and above work that is absolutely necessary, and by negotiating with the aviation depot for the number of labor hours needed to perform over and above work, the administrative project officer attempted to ensure that only the minimum necessary labor would be expended on the work. The GAO reported that this process also provided an incentive for the depots to focus on cost monitoring and control because they are supposed to be paid only the amount approved by the contract administrator. The GAO reported that because the depots internally approved over and above work for non-competition overhauls, without oversight from any independent source, there could be less discipline in the approval process for non-competition overhauls.

The GAO reported that Naval Aviation Depot officials did not believe that the increased oversight provided by the administrative project officer was a major reason that competition overhauls cost less than non-competition overhauls. The GAO noted that they indicated that the difference was primarily because older aircraft were routinely overhauled under the non-competition program. Relying on aircraft block numbers, the GAO found, however, based on a limited analysis, that even when the average age of overhauled F-14s was approximately the same, the non-competition overhauls still cost significantly more than competition overhauls.

The GAO compared the average cost for all overhauls completed in FY 1990 and FY 1991, at Norfolk, for F-14s with block number 95 and below. The GAO noted, under the competition program, five overhauls were completed with an average block number of 82 compared with 12 overhauls under the non-competition program with an average block number of 87. The GAO found that even though the competition overhauls were slightly older than the non-competition overhauls, the non-competition overhauls cost an average of 24 percent more.

The GAO made a similar analysis at North Island, comparing costs for all F-14s completed in FY 1990 and FY 1991 that were block numbers 85 or 90. The GAO reported that the North Island Depot completed three such overhauls under the competition program, with an average block number of 88, and six such overhauls under the non-competition program, with an average block number of 89. Similar to the Norfolk depot, the GAO found that, although the average age of the overhauled aircraft was approximately the same, the non-competition overhauls cost an average of 26 percent more than the competition overhauls.

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The GAO concluded that, although the same maintenance practices were used in overhauling both competition and non-competition aircraft, there was a significant difference between the average cost of each type of overhaul. The GAO concluded that, for management consistency and control purposes, the distinction between competition and non-competition overhauls should be eliminated after a Naval Aviation Depot wins a competition and all work should be administered in the same manner as the competition work to help ensure that the same oversight and scrutiny is applied to all overhauls in an effort to minimize costs. (pp. 46-50/GAO Draft Report)

DOD RESPONSE: Concur.

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RECOMMENDATIONS

Now on p. 26

RECOMMENDATION 1: The GAO recommended that the Secretary of the Navy direct the Commander, Naval Air Systems Command, to take appropriate steps--such as periodic progress meetings with the key parties involved in competition efforts--to ensure that the new guidance on administration of competitive awards won by the Naval Aviation Depots is successfully implemented and that all parties adhere to the guidance. (p. 42/GAO Draft Report)

DOD RESPONSE: Concur. Naval Air Systems Command Instruction 4200.35, issued December 6, 1991, provides revised administrative procedures for competitive assignments to public activities. A work assignment document has been developed to specify how workload will be administered and it will support the funding document issued to public activities for competition workload. The Naval Air Systems Command has incorporated guidance into requests for proposals for upcoming competitions. That guidance clarifies the roles of the administrative project officers, the depots, and the Naval Air Systems Command in administering assignments of work to the depots under public/private competition. The Navy will pursue the plausibility of the Defense Contract Management Command performing post award administration functions on all awards as a result of public/private competition including periodic progress meetings to ensure compliance with Naval Air Systems Command Instruction 4200.35 and its updates. That role will be defined by the end of FY 1992.

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RECOMMENDATION 2: The GAO recommended that the Commander Naval Air Systems Command follow through on the Naval Aviation Depot plans to modify the cost accounting system to allow labor and material costs to be tracked to individual work requests. (p. 42/GAO Draft Report)

DOD RESPONSE: Concur. The Deputy Assistant Commander for Aviation Depots, Naval Air Systems Command, directed the required modifications be incorporated in the Naval Air Systems Command Industrial Financial Management System. The modifications will allow labor and material costs to be tracked to individual work requests. These system enhancements have been given the highest priority and are targeted for implementation by June 30, 1992.

RECOMMENDATION 3: The GAO recommended that the Secretary of the Navy direct the Commander, Naval Air Systems Command, to issue policy guidance directing that the same administrative process be applied to both competed and noncompeted work. (p. 51/GAO Draft Report)

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DOD RESPONSE: Concur. The Naval Air Systems Command recognizes that formalized administrative procedures for both competitive and noncompetitive work would enhance the attainment of economic goals. The Depot Competition Evaluation Branch, in coordination with representatives from the Procuring Contracting Office and Depot Operations Business Office will prepare procedures necessary to implement the concurrent administration of both competitive and noncompetitive work by May 29, 1992. Upon approval, the policy and procedures will be institutionalized by amending Naval Air Systems Command Instruction 4200.35 (Competition between Private and Public Offerors) by June 30, 1992.

Major Contributors to This Report

National Security and International Affairs Division, Washington, D.C.	James Murphy, Assistant Director
Norfolk Regional Office	Hugh Brady, Regional Management Representative Gary Phillips, Evaluator-in-Charge Sandra Epps, Site Senior Oried Graves, Site Senior

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