



INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
ARLINGTON, VIRGINIA 22202-2884

September 20, 1991

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (PRODUCTION AND LOGISTICS)

SUBJECT: Report on the Audit of Contractor Maintenance Support for Operation Desert Shield/Storm (Report No. 91-120)

We are providing this final report for your information and use. It addresses the management of contractor maintenance support for weapon systems deployed in support of Operation Desert Shield/Storm. We made the audit at the request of the Office of the Assistant Secretary of Defense (Production and Logistics).

A draft of this report was provided to the addressee for comments on June 28, 1991. As of September 16, 1991, no comments had been received. DoD Directive 7650.3 requires that all audit recommendations be resolved promptly. Therefore, we request that the Assistant Secretary of Defense (Production and Logistics) provide comments by November 19, 1991. As required by DoD Directive 7650.3, the comments must indicate concurrence or nonconcurrence in the finding and the recommendation. If you concur, describe the corrective actions taken or planned, the completion dates for actions already taken, and the estimated dates for the completion of planned actions. If you nonconcur, you must state your specific reasons for each nonconcurrence. If appropriate, you may propose alternative methods for accomplishing desired improvements. We also ask that your comments indicate concurrence or nonconcurrence with the internal control weaknesses addressed in Part I of this report.

The courtesies extended to the staff are appreciated. If you have any questions on this audit, please contact Mr. Dennis Payne at (703) 614-6227 (DSN 224-6227) or Mr. Joseph Austin at (703) 614-6224 (DSN 224-6224). The planned distribution of this report is listed in Appendix E.

A handwritten signature in black ink that reads "Robert J. Lieberman".

Robert J. Lieberman
Assistant Inspector General
for Auditing

Enclosure

Office of the Inspector General, DoD

AUDIT REPORT NO. 91-120
(Project No. 1LB-5002)

September 20, 1991

CONTRACTOR MAINTENANCE SUPPORT FOR OPERATION DESERT SHIELD/STORM

EXECUTIVE SUMMARY

Introduction. This audit was requested by the Office of the Assistant Secretary of Defense (Production and Logistics). Civilian contractor personnel have been widely used to perform maintenance functions to keep DoD weapon systems operational, including maintenance support in areas of potential hostilities.

Objectives. Our objective was to evaluate the overall management of contractor maintenance support for weapon systems deployed in support of Operation Desert Shield/Storm. Emphasis was placed on reviewing four fielded weapon systems and one developmental system.

Audit Results. For the four fielded weapon systems evaluated, maintenance support was provided by deploying the civilian and contractor personnel who supported the systems prior to deployment. DoD Components did not coordinate with other United States and Coalition military units, the U.S. Central Command logistics and contracting offices, or host nations during Operation Desert Shield/Storm operations to determine if all or a portion of weapon systems maintenance support could have been provided more cost-effectively from these sources. For the developmental weapon system reviewed, it would not have been practical to obtain any significant maintenance support from sources other than the developmental contractor.

Internal Controls. Internal controls for contractor maintenance support were deemed to be ineffective because DoD Components inadequately planned and coordinated maintenance support procurements. Additional details are provided in the Internal Controls section of Part I of this report.

Potential Benefits of Audit. Maintenance services required for weapon systems involved in rapid deployments could be obtained more cost-effectively. We were not able to quantify the monetary benefits. Additional details are included in Appendix C.

Summary of Recommendations. We recommended that internal control procedures be established to require DoD Components to develop in coordination with other potential sources contingency plans for providing weapon system maintenance support in the event of rapid deployment to hostile areas.

Management Comments. No comments were received in response to the draft report. Comments are requested from the Assistant Secretary of Defense (Production and Logistics) by November 19, 1991.

TABLE OF CONTENTS

	<u>Page</u>
TRANSMITTAL MEMORANDUM	1
EXECUTIVE SUMMARY	i
PART I - INTRODUCTION	1
Background	1
Objectives	1
Scope	1
Internal Controls	2
Prior Audits and Other Reviews	2
Other Matters of Interest	2
PART II - FINDING AND RECOMMENDATION	5
Coordination of Maintenance Services	5
PART III - ADDITIONAL INFORMATION	9
APPENDIX A - Related General Accounting Office Coverage	11
APPENDIX B - Summary of Contractor Maintenance Personnel Sent to Desert Shield/Storm Operations to Support Selected Weapon Systems	13
APPENDIX C - Summary of Potential Monetary and Other Benefits Resulting from Audit	15
APPENDIX D - Activities Visited or Contacted	17
APPENDIX E - Report Distribution	19

This report was prepared by the Logistics Support Directorate, Office of the Assistant Inspector General for Auditing, DoD. Copies of the report can be obtained from the Information Officer, Audit Planning and Technical Support Directorate, (703) 693-0340.

PART I - INTRODUCTION

Background

Civilian contractor personnel have been used widely to perform maintenance functions for DoD weapon systems during peace time. The DoD budgeted \$8.2 billion in FY 1991 for contractor maintenance support. In the event of hostilities, civilian contractor personnel have been deployed to maintain weapon systems used during military operations. Civilian contractor personnel were used extensively during the Vietnam conflict.

Objectives

The audit was requested by the Office of the Deputy Assistant Secretary of Defense (Logistics), Assistant Secretary of Defense (Production and Logistics). Our objective was to evaluate the overall management of contractor maintenance support for weapon systems deployed in support of Operation Desert Shield/Storm. Specifically, the objectives were to evaluate the planning, contracting, coordination among Military Departments and Defense agencies, and execution of contractor maintenance support. We also evaluated the effectiveness of applicable internal controls.

Scope

The audit included an overall review of the weapon systems maintenance planning process of the U.S. Central Command and the Headquarters of the Military Departments applicable to the period of Desert Shield/Storm operations from August 1990 through March 1991. We also performed a detailed review of the planning, contracting, coordination, and execution of contractor maintenance support for four fielded weapon systems and one developmental system deployed from the continental United States to the Operation Desert Shield/Storm operations. These five weapon systems were the:

- UH-60 Blackhawk Helicopter
- CH-47 Chinook Helicopter
- Hawk Missile System
- Target Acquisition Designation Sight/Pilot Night Vision Sensor
- Joint Surveillance Target Attack Radar System (Developmental)

This economy and efficiency audit was made from October 1990 through May 1991 in accordance with auditing standards issued by the Comptroller General of the United States as implemented by the Inspector General, DoD, and accordingly included such tests of internal controls as were considered necessary. Activities visited or contacted during the review are listed in Appendix D.

Internal Controls

We evaluated internal controls over the management of contractor maintenance support by determining if controls were in place to ensure the adequacy of the planning, contracting, coordination among Military Departments, and execution of contractor maintenance support. The internal controls were deemed to be ineffective in that the Military Departments inadequately planned and coordinated maintenance support procurements. The recommendation in this report, if implemented, will assist in correcting this deficiency. We could not determine the monetary benefits to be realized by implementing the recommendation. The monetary benefits were not readily identifiable because the amount depends on the extent of future requirements for rapid deployments of weapon systems to areas of potential hostilities. A copy of the final report will be provided to the senior officials responsible for internal controls within the Army, Navy, and Air Force.

Prior Audits and Other Reviews

The General Accounting Office (GAO) has underway several related audits covering the maintenance support for selected weapon systems deployed to the Operation Desert Shield/Storm operations. Appendix A provides a summary of these GAO audits. In addition, the IG, DoD issued Report No. 91-105, "Audit of Civilian Contractors Overseas Support During Hostilities," June 26, 1991. This report concluded that DoD Components could not ensure that emergency-essential services performed by contractors would continue during crises or hostile situations. The report recommended that the Assistant Secretary of Defense (Force Management and Personnel) revise DoD Instruction 3020.37, "Continuation of Essential DoD Contractor Services During Crises," in order to provide additional assurance of the continuation of emergency-essential services during crises and hostile situations.

Other Matters of Interest

Appendix B provides a summary of contractor personnel sent to the Operation Desert Shield/Storm operations to support selected weapon systems. Because there was no central clearance office for contractor personnel deployed to the Desert Shield/Storm operations, we were unable to fully respond to an informal request received from the Office of the Deputy Assistant Secretary of Defense (Logistics), Assistant Secretary of Defense (Production and Logistics), to determine the full extent of contractor maintenance personnel sent to the Operation Desert Shield/Storm operations. Report No. 91-105 recommended that DoD Instruction 3020.37 be revised to require an annual reporting system that identifies the number of contracts with emergency-essential services and the number of contractor personnel needed to perform the services.

For the four fielded weapon systems we evaluated, the responsible DoD Components issued unpriced orders under existing contractor maintenance support contracts to obtain the additional maintenance support required in the Operation Desert Shield/Storm operations. This use of unpriced orders was in accordance with the Federal and Defense Acquisition Regulations. By permitting the contractor the time to prepare supporting cost and pricing data for these urgent services, and by permitting the Government the time to fully evaluate the contractor's supporting cost and pricing data before negotiating a final price, the risk of unreasonable prices should be reduced.

PART II - FINDING AND RECOMMENDATION

COORDINATION OF MAINTENANCE SERVICES

For the four fielded weapon systems evaluated, the responsible DoD Components did not coordinate with other United States and Coalition military units, the U.S. Central Command logistics and contracting offices, or the host nations in the Operation Desert Shield/Storm operations to determine whether all or a portion of the required weapon systems maintenance support could have been provided from these sources. This was caused primarily by inadequate planning of how to best obtain maintenance support for the rapid deployment of weapon systems, and by inadequate internal control procedures requiring such coordination. As a result, there was no assurance that the most cost-effective means of providing these maintenance services were obtained.

DISCUSSION OF DETAILS

Background

There are no DoD regulations, directives, or instructions that require overall coordination of weapon systems maintenance services at all levels of maintenance among the DoD Components.

DoD Directive 4151.1, "Use of Contractor and DoD Resources for Maintenance," does, however, provide guidance concerning the use of contractor and DoD resources for DoD materiel maintenance. The Directive states that DoD Components shall provide an adequate program for maintenance of assigned materiel to meet mobilization and surge requirements and to meet efficiently and effectively peacetime readiness and combat sustainability objectives. The Directive requires that a joint support plan be developed for depot level maintenance by the lead DoD Component whenever the same weapon system or equipment has been procured by two or more DoD Components. The Directive requires the Assistant Secretary of Defense (Production and Logistics) to review each major system's integrated logistics plan to determine the adequacy of the maintenance concept and related plans.

The head of each DoD Component is also required by the Directive to annually determine minimum organic maintenance capabilities and physical capacities required to ensure a ready, controlled source of technical competence and resources necessary to meet military contingencies. Additionally, the heads of DoD Components are required to develop a plan to use contractors when an adequate number of Military Department skilled personnel are not available.

DoD Instruction 3020.37 also emphasizes that DoD Components should develop weapon systems maintenance plans that rely on the most effective mix of the total force, cost and other factors

considered, including active reserves; civilian; host nation; and contract resources necessary to fulfill assigned peacetime and wartime missions.

DoD Directive 4151.16, "DoD Equipment Maintenance Program," establishes guidelines for interservice maintenance support programs at the depot maintenance level. The Directive defines interservice maintenance as maintenance by the organic capability of one Military Department or element for support of another Military Department or element. The Directive further states that interservice support shall be used whenever economic benefits will accrue without resulting in significant degradation in operational capabilities. We believe the same principle should also apply to the intermediate and field levels of maintenance such as that in the Operation Desert Shield/Storm operations.

Planning Process

The individual operating units of the Army, Navy, and Air Force were relied on to provide organic maintenance support or make provisions for external maintenance support for their assigned weapon systems, including maintenance support that might be required for rapid deployments, such as that in response to Operation Desert Shield/Storm. The Army, Navy, and Air Force had no centralized planning for maintenance support at the headquarters levels.

The U.S. Central Command had overall responsibility for developing plans for providing logistics support in the event of any military operations in Southwest Asia, which includes the area covered by Operation Desert Shield/Storm operations. The Central Command established an overall plan that stated that the maximum use of host nation resources should be used to support deploying forces. The plan also provided liaison contracting offices to assist military units in determining the availability of contractor and host nation support. The plan specifically stated that the lead component for contract support should coordinate acquisitions for the operation plan to promote efficient utilization of host nation and contracting resources.

Coordination. DoD Components lacked overall coordination when obtaining maintenance support for the four fielded weapon systems reviewed. The procurements of maintenance support for the UH-60 Blackhawk helicopter and Hawk missile illustrate this lack of coordination.

UH-60 Blackhawk helicopter. When 11 companies of Army Blackhawk helicopters were deployed from the continental United States to the Operation Desert Shield/Storm operations, the responsible Army units entered into special contractual arrangements to obtain required maintenance support from the same contractors who had provided the services in the continental

United States. These special contractual arrangements provided for 40 contractor maintenance personnel to be sent to the operations to support the Blackhawk and other helicopters.

Although the Blackhawk helicopter is used also by the Navy and is also in the arsenal of several other nations, including many who were involved in Operation Desert Shield/Storm operations, there was no coordination between the deploying Army units, the Navy, the Central Command, other Coalition military units, or the host nations in the operations to determine whether all or a portion of the required maintenance support could have been provided more cost-effectively from these sources.

Such coordination may have shown that all or a portion of the maintenance support could have been provided from other sources, such as through a contract the Navy had with a contractor located near the operations in Israel for maintenance support of its Blackhawk helicopters. Because of the lack of coordination, there was no assurance that the Army obtained the most cost-effective maintenance services for its Blackhawk helicopters deployed to the Operation Desert Shield/Storm operations.

Hawk missile. Another example of the lack of coordination occurred when the Marine Corps deployed Hawk missile systems from the continental United States to the Operation Desert Shield/Storm operations. The responsible Marine component entered into a special contractual arrangement with the contractor who was providing maintenance support for the Marine's Hawk missile systems in the United States, to provide maintenance support in the Operation Desert Shield/Storm operations. These special contractual arrangements provided for two contractor maintenance personnel to be sent to the operations.

The Army also deployed several Hawk missile systems to the Operation Desert Shield/Storm operations. The Army deployed DoD civilian maintenance personnel from the continental United States to the Desert Shield/Storm operations to provide maintenance support for its Hawk missile systems.

The host nations, including Saudi Arabia and the United Arab Emirates, also have Hawk missile systems, and many of the Coalition nations involved in Operation Desert Shield/Storm operations also have the Hawk missile in their military arsenal.

Despite the widespread potential available for coordinating maintenance support requirements for the Hawk missile and achieving potential cost savings, there was no coordination between the Marine Corps and the Army. Additionally, there was no coordination between the Marine Corps or the Army with the host nations or other Coalition forces to determine the most cost-effective means for providing maintenance support for the Hawk missile systems deployed to the Operation Desert Shield/Storm operations.

For the developmental weapon system reviewed, the Joint Surveillance Target Attack Radar System, we do not believe that it would have been practical to obtain any significant maintenance support from sources other than the developmental contractor.

Conclusion

It is widely understood that increased coordination and increased interservicing of maintenance support can provide savings. On June 30, 1990, the Deputy Secretary of Defense directed that efforts be made to substantially increase interservicing at the depot maintenance level so that savings can be realized. On February 26, 1991, the Military Departments estimated that more than \$100 million in maintenance costs could be saved over the next 5 years by increased interservicing of maintenance requirements. We believe that savings could also be realized through increased coordination of maintenance requirements at the intermediate and field level maintenance levels. Realizing this savings potential will require better planning and adequate internal control procedures.

RECOMMENDATION FOR CORRECTIVE ACTIONS

We recommend that the Assistant Secretary of Defense (Production and Logistics) initiate actions to revise DoD Directive 4151.1 "Use of Contractor and DoD Resources for Maintenance of Materiel," to require the cognizant DoD Component to develop a contingency plan for providing maintenance support for assigned weapon systems in the event of rapid deployment to potential hostile areas. The Directive should specify coordination procedures to ensure that the required maintenance support will be obtained from the potential source that will be able to provide the most cost-effective maintenance support. Procedures should include requirements for the cognizant DoD Component to coordinate with other DoD Components and other potential sources (for example, host nation and other allied forces) to determine the most cost-effective means of obtaining maintenance support when rapid deployment of weapon systems to support military operations is required. For weapon systems used by two or more DoD Components, the contingency plan should be developed by the lead DoD Component specified in DoD Directive 4151.1, paragraph E.10.

MANAGEMENT COMMENTS

Management comments were requested from the Assistant Secretary of Defense (Production and Logistics) on June 28, 1991. As of September 16, 1991, no comments had been received.

PART III - ADDITIONAL INFORMATION

- APPENDIX A - Related General Accounting Office Coverage
- APPENDIX B - Summary of Contractor Maintenance Personnel Sent to Desert Shield/Storm Operations to Support Selected Weapon Systems
- APPENDIX C - Summary of Potential Monetary and Other Benefits Resulting from Audit
- APPENDIX D - Activities Visited or Contacted
- APPENDIX E - Report Distribution

APPENDIX A: RELATED GENERAL ACCOUNTING OFFICE COVERAGE

The GAO initiated several audits that will include within their scope an evaluation of the maintenance support for a number of weapon systems deployed to the Operation Desert Shield/Storm operations. These audits include the Audit of State-Side Logistics Support for Selected Army, Navy, and Air Force Weapon Systems in Support of Operation Desert Shield/Storm (Project No. 393437); the Audit of Operational Performance and Support of Certain Navy Weapon Systems in Support of Operation Desert Shield/Storm (Project No. 394416); and the Audit of Air Force Logistical Support of Deployed Aircraft in Operation Desert Storm (Project No. 392605). The weapon systems of which maintenance support is being evaluated during these GAO audits include the:

A-6 Intruder Aircraft
A-10 Thunderbolt Aircraft
AH-1 Cobra Helicopter
AH-64 Apache Helicopter
AV-8B Harrier Aircraft
Bradley Fighting Vehicle
C-141 Starlifter Aircraft
F-14 Tomcat Aircraft
F-15E Strike Eagle Aircraft
F-16 Falcon Aircraft
F/A-18 Hornet Aircraft
M-1 Tank
M-60 Main Battle Tank
M1A1 Abrams Tank

APPENDIX B: SUMMARY OF CONTRACTOR MAINTENANCE PERSONNEL SENT TO DESERT SHIELD/STORM OPERATIONS TO SUPPORT SELECTED WEAPON SYSTEMS

<u>Contractor</u>	<u>Number of Personnel</u>
Beech Aerospace	15
Boeing Helicopter	10
Dyncorp	450
Ford Aerospace	9
General Dynamics	104
GTE Government Systems	10
Grumman	79
Learjet	16
Lockheed	71
Martin Marietta	21
McDonnell Douglas	19
Miltope	9
Raytheon	12
SERVAIR	8
UTL	6

NOTE: The chart is representative of information provided by 30 DoD activities that deployed weapon systems from the continental United States to the Operation Desert Shield/Storm operations. The chart does not represent all contractor maintenance personnel sent.

**APPENDIX C: SUMMARY OF POTENTIAL MONETARY AND OTHER BENEFITS
RESULTING FROM AUDIT**

<u>Recommendation Reference</u>	<u>Description of Benefit</u>	<u>Amount and/or Type of Benefit</u>
Recommendation	<u>Economy and Efficiency.</u> Maintenance services will be obtained more cost-effectively.	<u>Funds Put to Better Use.</u> Monetary benefits will occur, but cannot be quantified. Amount depends on the future requirements for rapid deployments of weapon systems to areas of potential hostilities.

APPENDIX D: ACTIVITIES VISITED OR CONTACTED

Office of the Secretary of Defense

Deputy Assistant Secretary of Defense (Logistics), Office of the
Assistant Secretary of Defense (Production and Logistics),
Washington, DC

Department of the Army

Chief of Staff for Logistics, Office of the Deputy Chief of
Staff for Logistics, Washington, DC
Army Materiel Command, Alexandria, VA
Armament Munition and Chemical Command, Rock Island, IL
Aviation Systems Command, St. Louis, MO
Communications-Electronics Command, Ft. Monmouth, NJ
Depot Systems Command, Chambersburg, PA
Forces Command, Atlanta, GA
Missile Command, Redstone Arsenal, AL
Tank and Automotive Command, Warren, MI
Air Defense School, Ft. Bliss, TX
III Corps, Ft. Hood, TX

Department of the Navy

Office of the Deputy Chief of Naval Operations (Logistics),
Washington, DC
Naval Air Systems Command, Arlington, VA
Naval Sea Systems Command, Arlington, VA
Naval Supply Systems Command, Arlington, VA
Space and Naval Warfare Systems Command, Arlington, VA
Naval Aviation Depot Command, Patuxent, MD
Headquarters, Marine Corps, Washington, DC
Quantico Marine Corps Base, Quantico, VA

Department of the Air Force

Deputy Chief of Staff (Logistics and Engineering), Washington, DC
Air Force Logistics Command, Wright Patterson Air Force Base, OH
Air Force Systems Command, Andrews Air Force Base, MD
Ogden Air Logistics Center, Hill Air Force Base, UT
Oklahoma City Air Logistics Center, Tinker Air Force Base, OK
San Antonio Air Logistics Center, Kelly Air Force Base, TX
Warner Robins Air Logistics Center, Robins Air Force Base, GA
Electronics Systems Division, Hanscom Air Force Base, MA

APPENDIX D: ACTIVITIES VISITED OR CONTACTED (cont'd)

Defense Agency

Defense Logistics Agency, Alexandria, VA

Other Defense Activities

U.S. Central Command, MacDill Air Force Base, FL

Non-DoD Activities

Grumman Corporation, Milbourne, FL

Martin Marietta Corporation, Orlando, FL

Raytheon Corporation, Waltham, MA

APPENDIX E: REPORT DISTRIBUTION

Office of the Secretary of Defense

Assistant Secretary of Defense (Production and Logistics)
Assistant Secretary of Defense (Public Affairs)
Comptroller of the Department of Defense

Department of the Army

Secretary of the Army
Assistant Secretary of the Army (Financial Management)
Assistant Secretary of the Army (Research, Development and
Acquisition)
Assistant Secretary of the Army (Installation and Logistics)
Commander, Army Tank-Automotive Command
Director, Army Contracting Support Agency
Army Audit Agency

Department of the Navy

Secretary of the Navy
Assistant Secretary of the Navy (Financial Management)
Naval Audit Service

Department of the Air Force

Secretary of the Air Force
Assistant Secretary of the Air Force (Financial Management and
Comptroller)
Air Force Audit Agency

Defense Agencies

Director, Defense Contract Audit Agency
Director, Defense Logistics Agency

Non-DoD Activities

Office of Management and Budget
National Security Division, Special Projects Branch
U.S. General Accounting Office,
NSIAD Technical Information Center

Congressional Committees:

Senate Committee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
Senate Ranking Minority Member, Committee on Armed Services

APPENDIX E: REPORT DISTRIBUTION (cont'd)

House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Ranking Minority Member, Committee on Appropriations
House Committee on Armed Services
House Committee on Government Operations
House Subcommittee on Legislation and National Security,
Committee on Government Operations

AUDIT TEAM MEMBERS

Shelton R. Young, Director, Logistics Support Directorate

Dennis E. Payne, Program Director

Joseph M. Austin, Project Manager

Hewitt Q. McKinney, Team Leader

Douglas M. Warish, Team Leader

Jed Harrison, Auditor

Ralphine M. Madison, Auditor

Evelyn E. Walters, Auditor