INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
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ARLINGTON, VIRGINIA 22202-2884

REPORT
NO. 90-028

December 26, 1989

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (FINANCIAL MANAGEMENT)

SUBJECT: Report on the Survey of the Acquisition and Management of Test Facilities at DoD Proving Grounds (Project No. 9AB-0037)

## Introduction

This is our report on the Survey of the Acquisition and Management of Test Facilities at DoD Proving Grounds. The Acquisition Management Directorate made the survey from April to July 1989. The objective of the survey was to evaluate the effectiveness of procedures established to acquire and manage test facilities at DoD proving grounds. Our evaluation included an examination of existing test facilities, facility requirements, modernization plans, and funding. We also evaluated the effectiveness of the policies, procedures, and internal controls used to limit the proliferation of test facilities and instrumentation at the proving grounds.

## Scope of Survey

We reviewed five DoD proving grounds managed and operated by the Department of the Army. The proving grounds were Aberdeen Proving Ground, Aberdeen, Maryland; Dugway Proving Ground, Dugway, Utah; Electronic Proving Ground, Fort Huachuca, Arizona; Jefferson Proving Ground, Madison, Indiana; and Yuma Proving Ground, Yuma, Arizona.

We interviewed Army headquarters personnel, proving ground commanders, technical directors, and facility managers on acquisition, management, capacity, and utilization of test facilities. We toured and inspected existing manned and unmanned test facilities at each of the locations, reviewed the Army's improvement and modernization plans for instrumentation (computers, calibrators, radios, antennas, etc.) and military construction for proposed test facilities for FY 1989 to FY 1995. We also analyzed available capacity and utilization data for test facilities for FY 1988 and FY 1989, and evaluated the management control procedures to prevent the unnecessary duplication of test facilities and capabilities. We also reviewed risk assessments performed in accordance with the Federal Managers' Financial Integrity Act. The management

controls applicable to the survey objectives were deemed to be effective in that no material deficiencies were disclosed by the survey.

This survey was made from April through July 1989 in accordance with the auditing standards issued by the Comptroller General of the United States as implemented by the Inspector General, DoD; and accordingly, included such tests of the internal controls as were considered necessary. The activities visited or contacted are listed in Enclosure 1.

## Background

DoD Directive 3200.11, "Major Range and Test Facility Base," September 29, 1980, assigns responsibility for the management and operation of the Major Range and Test Facilities (MRTF's). The DoD Directive requires that the Secretaries of the Military Departments manage and operate their assigned MRTF's to ensure early MRTF participation in the test and evaluation planning process of new defense materiel and systems to maximize use of existing test support capabilities, avoid unnecessary new acquisition, prevent unnecessary duplication, and permit development of new capabilities.

In December 1988, the Army Materiel Command (AMC) issued AMC Regulation No. 70-9, "Research, Development, and Acquisition: Test Facilities Management," which prescribes policy and procedures for the AMC Test Facilities Management Program, the U.S. Army Test Facilities (TESTFACS) Register, and the AMC TESTFACS Master Plan. The regulation requires that the TESTFACS Master Plan be used to forecast and obtain approval for new test facilities with a total 7-year cost of $200,000 or more. The regulation also requires that the TESTFACS Master Plan be reviewed by an internal Test and Evaluation Command test facilities panel, a major subordinate command test and evaluation manager-level panel, and an AMC senior executive-level panel to prevent the unnecessary duplication of AMC capital investments. The regulation further assigns to all AMC major subordinate commands the responsibility to survey the TESTFACS Register for duplication prior to initiating acquisition of a test facility costing $200,000 or more.

On April 1, 1989, the U.S. Army Test and Evaluation Command (TECOM) implemented draft TECOM Regulation 70-18, "Research, Development, and Acquisition: Instrumentation Development and Acquisition," which prescribes procedures for documenting and submitting the Instrumentation Development and Acquisition Plan (IDAP) and requires the IDAP to serve as the basis for avoiding unnecessary duplication of instrumentation at TECOM's test centers. The draft regulation also assigns responsibility to the Chief, Instrumentation Division (Directorate for Technology),

Headquarters, TECOM, to advise test centers of potential duplication of instrumentation and of potential joint procurements to save money and maximize commonality.

**Prior Audit Coverage**

We identified four reports completed within the last 5 years that specifically addressed the unnecessary duplication of test facilities or the underutilization of test facilities.

Department of Defense, Inspector General. "Survey of Operating Cost Differentials at Naval Air Propulsion Center and Arnold Engineering Development Center," Report No. 84-102, June 27, 1984, compared the operating costs between Arnold Engineering Development Center and Naval Air Propulsion Center and determined that similar test facilities and capabilities existed. The report concluded that the Naval Air Propulsion Center operation was more efficient and cost-effective for altitude turbine engine testing than the Arnold Engineering Development Center. The report made no formal recommendations.

"Audit of Supersonic Sled Tracks," Report No. 85-085, April 5, 1985, determined that the work load was not sufficient to justify the funding of a new sled track at the Naval Weapons Center, China Lake, California. It concluded that the Navy's sled track work load could be accomplished at Holloman Air Force Base, Alamogordo, New Mexico, with no increase in staffing. The report recommended closure of the China Lake facility, cancellation of funding requests for a new track facility at China Lake, and development of a plan at the Holloman track facility to permit the absorption of the Navy work load without additional staff. The Under Secretary of Defense for Research and Engineering concurred with the basic thrust of the report and agreed that the China Lake facility will not be replaced or refurbished without compelling justification. The advisability of combining work loads with existing facilities should be seriously considered. A followup review revealed that a decision was made to defer the closure of the sled track at the China Lake facility. Reasons cited were:

- the cost of consolidation offset the savings in closing the China Lake track because Holloman's A-76 staffing reduction would require additional manpower, and

- the China Lake track deterioration has been slower than anticipated.

A $51.8 million cost savings was realized in not replacing the China Lake track.

"Audit of Undersea Test Capabilities," Report No. 87-190, July 13, 1987, showed that all acoustic measurement ranges were underutilized and that consolidation and changes in Navy plans to increase testing capacity were necessary to improve the use of existing ranges and save operating funds. We recommended that the conversion contract for the USS Hayes not be implemented because the Navy's plan to replace the ship MONOB with the USS Hayes was not supportable and could result in unnecessary expenditures of $71.4 million. The report also concluded that the Navy was unnecessarily spending $4.9 million annually to maintain and operate underutilized acoustic measurement ranges with duplicate capabilities. DoD nonconcurred with our recommendations. As a result of the resolution process, the conversion contract for the USS Hayes was allowed to proceed. Other monetary benefits are to be determined after the completion of a Navy study of recommendations to consolidate certain ranges.

General Accounting Office. "Acquisition and Management of Test Facilities," GAO Letter Report of April 16, 1987, Code No. 396205, stated that there was no central focus for coordinating DoD test facility purchases and preventing unnecessary overlap and duplication of such acquisitions. The report also stated that test facility capability cannot be adequately evaluated because of the lack of a uniform definition of a test facility, an up-to-date inventory of existing test facilities showing capabilities, and reliable usage data. The report made no recommendations.

## Discussion

The Army Materiel Command and the Test and Evaluation Command issued regulations establishing policy and procedures to prevent the unnecessary duplication of test facilities and capabilities within and among the Army test centers. To determine if the regulations were implemented and the review process was effective, we reviewed the U.S. Army Test Facilities Register and the Army Materiel Command Test Facilities Master Plan to:

- identify duplicative test facilities and capabilities within a proving ground,

- identify duplicative test facilities and capabilities among the proving grounds,

- identify duplicative test facilities and capabilities between a proving ground's existing and proposed test facilities,

- identify duplicative test facilities and capabilities among proving grounds' existing test facilities and proposed projects, and

- identify duplicative proposed projects among proving grounds.

In addition, we toured and inspected 108 of 183 manned and unmanned test facilities at the 5 proving grounds. We found that necessary duplication exists because of the baseline test facilities and instrumentation needed to perform day-to-day testing. The types of baseline facilities and capabilities include climatic chambers, calibration and chemical laboratories, data analysis and computer instrumentation, and range control instrumentation. Test centers will usually have these basic test facilities and capabilities in order to perform the test and evaluation functions.

The survey disclosed no material internal control weaknesses as defined by Public Law 97-255, Office of Management and Budget Circular A-123, and DoD Directive 5010.38. Our survey disclosed that management controls were established and implemented to prevent the unnecessary proliferation of test facilities and instrumentation within the DoD proving grounds.

This report contains no findings or recommendations; therefore, written management comments were not required and none were received as of December 22, 1989. The survey team members who contributed to this report are listed in Enclosure 2. Copies of the final report will be distributed to the activities listed in Enclosure 3.

We appreciate the cooperation and courtesies extended to the staff during the survey. If you have any questions concerning this report, please contact Mr. Raymond Spencer, Program Director, at (202) 694-3995 (AUTOVON 224-3995) or Mr. Michael Simpson, Project Manager, at (202) 693-0371 (AUTOVON 223-0371).

Stephen A. Trodden
Assistant Inspector General
for Auditing

cc:
Secretary of the Army

## ACTIVITIES VISITED OR CONTACTED

Department of the Army

Office of the Assistant Secretary of the Army (Research, Development, and Acquisition), Washington, DC
Test and Evaluation Management Agency, Washington, DC
Army Materiel Command, Alexandria, VA
Test and Evaluation Command, Aberdeen Proving Ground, Aberdeen, MD
Combat Systems Test Activity, Aberdeen Proving Ground, Aberdeen, MD
Dugway Proving Ground, Dugway, UT
Electronic Proving Ground, Fort Huachuca, AZ
Jefferson Proving Ground, Madison, IN
Yuma Proving Ground, Yuma, AZ

## SURVEY TEAM MEMBERS

David Brinkman, Director, Acquisition Management Directorate
Raymond Spencer, Program Director
Michael Simpson, Project Manager
Yvonne Speight, Team Leader
C.L. Melvin, Auditor
Anella Oliva, Auditor

## FINAL REPORT DISTRIBUTION

Office of the Secretary of Defense

Office of the Under Secretary of Defense for Acquisition
Assistant Secretary of Defense (Public Affairs)

Department of the Army

Secretary of the Army
Assistant Secretary of the Army (Financial Management)
Test and Evaluation Management Agency
Army Materiel Command
Test and Evaluation Command
Combat Systems Test Activity
Dugway Proving Ground
Electronic Proving Ground
Jefferson Proving Ground
Yuma Proving Ground

Non-Defense Activities

Office of Management and Budget
U.S. General Accounting Office, NSIAD Technical Information Center

Congressional Committees:
- Senate Subcommittee on Defense, Committee on Appropriations
- Senate Committee on Armed Services
- Senate Committee on Governmental Affairs
- Senate Ranking Minority Member, Committee on Armed Services
- 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