

December 8, 2003



# Acquisition

Major Range and Test Facility  
Base  
(D-2004-035)

Department of Defense  
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### **Acronyms**

CTEIP  
MRTFB

Central Test and Evaluation Investment Program  
Major Range and Test Facility Base



INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE  
400 ARMY NAVY DRIVE  
ARLINGTON, VIRGINIA 22202-4704

December 8, 2003

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE (COMPTROLLER)  
DIRECTOR, OPERATIONAL TEST AND EVALUATION

SUBJECT: Report on Major Range and Test Facility Base (Report No. D-2004-035)

We are providing this report for your review and comment. We performed the audit in response to a request made by the Director, Operational Test and Evaluation. We considered management comments on a draft of this report when preparing the final report.

DoD Directive 7650.3 requires that all issues be resolved promptly. We redirected two recommendations to the Under Secretary of Defense (Comptroller). We request that the Under Secretary of Defense (Comptroller) provide the comments by January 9, 2004.

If possible, please provide management comments in electronic format (Adobe Acrobat file only) to [audam@dodig.osd.mil](mailto:audam@dodig.osd.mil). Copies of the management comments must contain the actual signature of the authorizing official. We cannot accept the / Signed / symbol in place of the actual signature. If you arrange to send classified comments electronically, they must be sent over the SECRET Internet Protocol Router Network (SIPRNET).

We appreciate the courtesies extended to the staff. For questions, please call Mr. Bruce A. Burton at (703) 604-9071 (DSN 664-9071) or Mr. Michael E. Simpson at (703) 604-8972 (DSN 664-8972). See Appendix D for the report distribution. The team members are listed inside the back cover.

By the direction of the Deputy Inspector General for Auditing:

Mary L. Ugone  
Director

Acquisition Management Directorate

# Office of the Inspector General of the Department of Defense

Report No. D-2004-035

(Project No. D2002AB-0177)

December 8, 2003

## Major Range and Test Facility Base

### Executive Summary

**Who Should Read This Report and Why?** Test and evaluation officials who are responsible for DoD support missions and senior officials responsible for evaluating the institutional needs of ranges should read this report because it examines the funding, test, and infrastructure backlog for the maintenance, modernization and repair of instrumentation, test assets, and analysis and control systems.

**Background.** This report is in response to a request by the Director, Operational Test and Evaluation who is responsible for the oversight of test and evaluation facilities. A second audit will determine the degree to which Central Test and Evaluation Investment Program funding is used to meet the needs of multi-Service test capabilities and whether funded programs have subsequently been procured by the Services. The Major Range and Test Facility Base is a national asset that is sized, operated, and maintained primarily for DoD test and evaluation support missions, but may also, in accordance with DoD Directive 3200.11, be available to all users having a valid requirement for its capabilities. The Major Range and Test Facility Base consists of broad-based test and evaluation ranges, which are managed and operated to provide support to the DoD Components responsible for developing or operating materiel and weapon systems. The missions and tests are conducted at each of the 19 ranges. The missions vary from testing missiles and aircraft to ensuring that electrical components can survive in various environments. Some ranges also conduct training exercises.

**Results.** The Military Departments' manner, methods, and amounts of funding; method of collecting and reporting backlogs; and the accounting for charges to customers varied significantly among the ranges. As a result, the Office of the Secretary of Defense and the Offices of the Secretaries of the Military Departments did not have comparable data on the funding levels needed to reduce the backlog of test assets and infrastructure and support test missions. A standardized accounting system should be developed for the ranges. In addition, the Financial Management Regulation should be revised to ensure that uniform types of funding and methods of collecting and reporting backlogs are available that would provide senior DoD officials with data on which they can make more informed investment and funding decisions.

**Management Comments and Audit Response.** The Director, Operational Test and Evaluation commented on the draft report and concurred with suggested changes. Although not required to comment, the Director, Army Developmental Test Command and the Director, Army Test and Evaluation Command provided comments on the report discussion but did not concur or nonconcur with the recommendations. We redirected Recommendations 1. and 2. to the Under Secretary of Defense (Comptroller), therefore, we request that he comment on the final report by January 9, 2004. See the Finding section of the report for a discussion of management comments and the Management Comments section of the report for the complete text of comments.

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## Background

**Major Range and Test Facility Base (MRTFB).** The MRTFB is a national asset that is sized, operated, and maintained primarily for DoD test and evaluation support missions, but may also be available to all users having a valid requirement for its capabilities. The MRTFB consists of a broad base of test and evaluation ranges (19), which are managed and operated to provide test and evaluation support to the DoD Components responsible for developing or operating materiel and weapon systems. The missions and tests conducted at each of the 19 ranges are very different and, in some cases, unique. The missions vary from testing missiles and aircraft to ensuring that electrical components can survive in various environments. The test assets used include, among others, aircraft and ships. Some ranges also conduct training exercises. A second audit will determine the degree to which Central Test and Evaluation Investment Program (CTEIP) funding is used to meet the needs of multi-Service test capabilities and whether funded programs have subsequently been procured by the Services.

**Test and Evaluation Infrastructure.** According to “Reflections on Test and Evaluation” in *Program Manager*, dated July-August 2002, one method of viewing and assessing test and evaluation is in the context of facilities. Test and evaluation facilities must be efficient and capable of providing the necessary data to answer crucial questions on weapon system performance, operational effectiveness, suitability, and survivability. Test and evaluation facilities must be able to test the most advanced weapon systems and components as well as the complexities of a system of systems. The last decade has seen a significant deterioration in the facilities at the test ranges. The average age of test and evaluation facilities is now more than 40 years.

The ongoing military transformation requires the test and evaluation community to be prepared to test sophisticated systems that use advanced technology. Without the resources and funding required to sustain, maintain, and modernize test and evaluation, the quality of testing will deteriorate below acceptable limits.

**DoD Guidance.** DoD Directive 3200.11, “Major Range and Test Facility Base,” May 1, 2002, states the policy and responsibilities for the management and operation of specific DoD test and evaluation ranges. The Directive also states that all users shall reimburse the MRTFB ranges in accordance with the appropriate provisions of Regulation 7000.14-R, “DoD Financial Management Regulation,” May 1998, and that all costs incurred by MRTFB ranges in support of test and evaluation shall be billed in accordance with DoD Financial Management Regulation 7000.14-R. The reimbursement policy was developed to allow charges to be established for various customers to cover appropriate costs. DoD Components determine the amounts of funding that will be needed to directly support the ranges by establishing reimbursements.

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## **Objectives**

The audit objectives were to determine the magnitude, in dollars, of the MRTFB test infrastructure backlog in maintenance, modernization, and repair of instrumentation, test assets, and analysis and control systems and to determine the degree of compliance with DoD Directive 3200.11. Results of the audit objectives are addressed in detail in Appendix C. The finding was developed to highlight differences in the manner in which specific ranges operate.

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## Comparability of Activities for Major Range and Test Facility Base

The Military Departments' information on institutional funding and backlog of test assets and facilities for MRTFB ranges varied significantly because the manner, method, and amounts of funding; the collection and reporting of backlog data; and accounting for to charges to customers were different. As a result, the Office of the Secretary of Defense and the Offices of the Secretaries of the Military Departments did not have comparable data when making decisions on the funding levels needed to reduce the backlog of the infrastructure and test assets and support test missions. In addition, program managers may also have lacked relevant information necessary to make more informed test decisions for their programs.

### Funding

DoD Financial Management Regulation 7000.14-R (the Regulation) states that funding of the MRTFB is designed to:

- Ensure the most cost-effective development and testing of material, and
- Provide for inter-Service compatibility, efficiency, and equity without influencing test decisions or inhibiting legitimate and valid testing.

DoD Directive 3200.11 requires that the MRTFB ranges be funded in a uniform manner. The Director, Operational Test and Evaluation indicated that funding should be sufficient to support testing, the operation and maintenance of test infrastructure, modernization of test capabilities, and the management and accounting for such funds. The Directive further states that all costs incurred by the MRTFB shall be billed either to the direct appropriations referred to as institutional funds or to customers as reimbursable costs in accordance with the Regulation. In addition, all costs not paid by customers should be funded by the ranges' direct appropriations.

However, uniform funding did not occur because the manner, method, and amount of funding received by each range varied significantly, both within and across the Services. Ranges received differing levels of institutional funding as well as funding from other sources, which, according to the Director, Operational Test and Evaluation affected their ability to comply with the Directive and fund repair and modernization. In addition, funds were withheld from ranges in varying amounts.

As a result, the ranges with less funding from fewer sources had fewer options to meet operational requirements and did not always charge costs in the uniform manner intended by the Regulation and DoD Directive 3200.11. Those inequities may have influenced test decisions and may have inhibited valid testing or

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affected the status of infrastructure at the ranges. The Director, Operational Test and Evaluation indicated that the ranges lost customers because higher costs forced customers to other organizations. Those losses put more stress on insufficient institutional funding.

## Manner of Funding

All 19 ranges received two types of funds as their primary sources to operate. The first type was “Direct (Institutional) Funds,” which they received from their respective headquarters. The second was “Reimbursable Funds,” which the ranges received from the customers to test their systems. The ranges also received funds from other sources to provide resources for specific program needs. We conducted interviews on the MRTFB funding and examined key documentation, but we did not verify the numeric and workload data provided to the source documents.

**Institutional Funds.** All ranges received institutional funds that they used to operate their day-to-day test and training operations. The institutional funding received, as a percentage of total funding, varied from 19 percent to 81 percent in FY 2001.<sup>1</sup> The amount of institutional funding received was intended to provide for indirect costs that were not paid for by the customer. The more reimbursable funds a range receives, the less dependent it is likely to be on institutional funds. Thirteen ranges had decreased institutional funds as a percentage of total funds from FY 2000 through FY 2002. Six ranges received increased amounts of institutional funds. Funding from other sources also helped to determine how much reliance the range placed on adequate institutional funding.

**Reimbursable Funds.** All ranges received reimbursable funds from customers. The reimbursable rates were very different at each range. Ranges with more customers generally generated more reimbursable funds and had more flexibility when establishing customer rates than ranges with fewer customers. The number of customers and tests conducted were important factors in determining the amount of reimbursable funds that a range received. The amount of reimbursable funds received, as a percentage of total funding for the 19 ranges, varied from 13 percent to 78 percent in FY 2002.<sup>1</sup> The variances were primarily due to the significant difference in the number of tests conducted at each facility. However, in some cases, reimbursable amounts were increased to meet shortfalls in institutional funding. Ranges with fewer reimbursable customers and lower funds were much more dependent on their Military Departments for adequate levels of institutional funding. Reimbursable funds, as a percentage of total funding for FY 2000 through 2002, decreased for 7 ranges, increased for 11 ranges, and remained steady for 1 range.

**Other Sources.** Ranges received funding from sources other than their Military Departments’ institutional and reimbursable funds. Those sources consisted of congressional add-ons, funds from the CTEIP, funds from other agencies, and

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<sup>1</sup> See Appendix C for complete funding details.

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training funds. The sources provided funding for overall test and evaluation requirements and specific program needs.

**Congressional Add-Ons.** Eleven ranges received funds from congressional add-ons and the other eight ranges received no funding. The amount of congressional add-ons received for the eleven ranges varied from \$2 million to \$267 million.

**Funds from Other Agencies.** Six ranges received funds from other agencies for specific purposes. For example, the Pacific Missile Range Facility received \$23.8 million from the Missile Defense Agency for FY 2002. According to the Director, Army Test and Evaluation, Kwajalein also received funds from the Missile Defense Agency to refurbish transient housing and, in turn, Missile Defense Agency personnel received lower billeting rates until funds were amortized. In some cases, those funds provided improvements and modernization, which lessened the need to rely on reimbursable expenses or Department funds for this purpose. The other 13 ranges did not receive funds from other agencies.

**Training.** The primary focus of most of the ranges was testing; however, some also conducted training. The various ranges were under the control of the Military Departments, each of which had different focuses, priorities, and functions. Some were exclusively test facilities while others were primarily devoted to training. However, because seven ranges received varying amounts of training funds from their respective Military Departments, institutional funding between the ranges could not be meaningfully compared.

Because an individual Military Department controls each test range, training exercises may have been given priority over the test work of another Military Department, an example being the Pacific Missile Range. In addition, whether or not an exercise was considered a test or training may have been subject to the interpretation of the sponsoring Military Department. Other factors could also have distorted comparability. For example, the Electronic Proving Ground at Fort Huachuca was under the control of the White Sands Missile Range, which performs testing and training missions. Because the Electronic Proving Ground funding was intermingled with White Sands Missile Range funding, comparisons were further complicated. In another example of the complication from the mixed training and test missions, 59 percent of the Pacific Missile Range Facility labor hours was for fleet training exercises in FYs 2000 and 2001 and 41 percent was for testing. The Point Mugu and China Lake ranges received \$4.7 million and \$8.1 million, respectively, for training exercises in FYs 2001 and 2002.

## Methods of Funding

The methods used to fund the ranges were based on the different philosophies, interpretations, and methods of the Military Departments. Inconsistencies in funding methods occurred because headquarters distributed funds differently. The Military Departments had various approaches for allocating funds, withholding funds, and addressing shortfalls. In addition, each range developed

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its reimbursement charges based on its individual interpretation of the DoD Directive and the DoD Financial Management Regulation.

**Funding by Headquarters.** The methods used to distribute funding varied among the Services. For example, the Air Force Materiel Command distributed funding to the Eglin, Edwards, and Arnold Air Force bases based on proposed budgets and historical records. However, the Army Development Test Command used labor hours as the basis for allocating institutional funds that the range received. This method is based on workload and, although it considers some non-labor factors, individual Army ranges complained that it was not necessarily based on actual needs because the higher use ranges generated more reimbursable funds and would likely need less institutional funds. Ranges with smaller workloads received fewer funds when they possibly needed more because they were receiving lower reimbursable funds. This method also does not reward efficiencies on non-labor-intensive testing or learning-curve improvements. The Commander, Army Developmental Test Command contends that pressure for efficiencies is generated primarily by customers. Higher test costs result in lower workload and lower institutional funding requirements and allocations. Funding philosophies varied by Military Department. Air Force ranges had the highest percentages of institutional funding, followed by the Navy, with the Army locations generally having lower percentages of institutional to total funding.

**Funding Reductions by Headquarters.**<sup>1</sup> The Military Departments reduced the amount of funding distributed to their ranges for various reasons, including unexpected congressional reductions, other program overruns, and shifts in the priority of the funds. The Navy cut funds by 7 percent before it distributed them to four of its ranges, and withheld 14 percent at another range. A percentage of those amounts were refundable if not used before the end of the fiscal year. The Army Test and Evaluation Command holds 3 percent from every research, development, test and evaluation line and 4 percent from every operation and maintenance Army line. These dollars are used to pay Department of the Army taxes and congressional reductions. In addition, the Army's Developmental Test Command withheld 15 percent of its ranges' sustaining non-major instrumentation funds for Command initiatives such as common instrumentation. These funds are redistributed to the ranges based on the priority of instrumentation needs. The Air Force withheld 7 percent from one range and 8 percent from another.

**Funding Shortfalls.** The ranges made up for funding shortfalls in various ways such as adding a surcharge, increasing rates, reprogramming funds, or cutting back on ancillary training, supplies, and the amount of work performed by the range contractors. Ranges under the Army's Developmental Test Command added a surcharge to help alleviate any shortfalls. According to Developmental Test Command officials, the surcharge was needed because the Army provided little institutional funding to pay for the facility upgrades and revitalization that are required for adequate maintenance. In addition, base support funding and the level of support services decreased. Developmental Test Command customers were charged a prorated share of base operations costs, which contravenes DoD Directive 3200.11. However, according to the Commander, Army Developmental

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<sup>1</sup> See Appendix C for complete funding details.

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Test Command, the Army has recognized that customers were charged for indirect costs that were not their responsibility and has put funds in the FY 2004 Program Objective Memorandum to help alleviate this condition. After ranges cut expenses to the maximum possible extent, they may have had little choice but to increase costs. The Navy previously had used a similar approach and charged a surcharge, but discontinued the practice when it became aware that it violated the Directive. The Navy and Air Force did not charge surcharges, but each range made independent decisions on the types and amounts of reductions in supplies, services, and training.

**Customer Charges.** DoD Financial Management Regulation 7000.14-R specifies that different types of customers will be charged different costs. For instance, DoD customers will reimburse MRTFB ranges for direct costs that are readily identifiable with a particular customer order. Indirect costs are paid by the range's institutional appropriations. Non-DoD customers can be charged direct costs, as well as the appropriate amounts of indirect costs.

This policy works only if each range is funded in a consistent, uniform manner with appropriate levels of institutional costs. However, this was not the case. In some cases, arbitrary amounts of institutional funding were provided based on target levels of reimbursable funds to be generated, or limitations on increases to customers were made without considering costs. In addition, each range made independent determinations of appropriate direct and indirect costs to be charged to customers. Some ranges had a variety of different funding sources and vastly different customer bases. As a result, there was no consistent starting point, and each range had to decide on customer charges based on a unique set of circumstances. Those decisions affected when, how often, and whether tests would be conducted at all. Several ranges indicated that the lack of specifics on charges needed to be addressed in the Directive and the Regulation. The Commander, Army Developmental Test Command specifically commented on the lack of specificity in DoD Directive 3200.11.

The costs that were charged to customers varied significantly from one range to another. Some of the differences were due to the amounts of infrastructure and assets needed to support tests, and others were due to differences in interpretation on what constituted a valid charge to customers. Some ranges did not charge commercial and non-DoD customers different amounts; or in the case of one Army command, standard factors were developed to cover the additional costs charged to non-DoD customers. However, the command did not develop those factors to represent individual range experience. Other ranges could not explain how they developed certain factors or what costs those factors were designed to recoup. In addition, at least one range established prices based on a preset number of tests for one customer. Variances in the number of tests would result in the range's subsidizing other customers, or other customers subsidizing the range. When charges were insufficient to cover costs not funded through direct institutional appropriations, MRTFB ranges had to choose between cutting back expenses or increasing costs, or a combination of both.

**Range Workloads.**<sup>1</sup> The workloads of each range varied significantly based on the number of customers and tests conducted. The number of tests conducted at the ranges varied from 7 launches to more than 41,000 tests conducted in FY 2002. In addition, the types of tests varied within a range. The number of customers ranged from 3 to 124 in FY 2002.

## Amounts of Funding

Five of 19 ranges received more reimbursable funding than institutional funding, while 6 others received similar amounts of institutional and reimbursable funding in FY 2002. The High Energy Laser Test Facility generated only 13 percent of its total funds from reimbursable customers, while the 46th Test Wing generated 78 percent of its total funds from reimbursable funds in FY 2002. Eighty percent of the High Energy Laser Test Facility funding came from institutional funding, while the 46th Test Wing received only 22 percent in institutional funding in FY 2002.<sup>1</sup> In addition, ranges that had sufficient funds from various sources had more flexibility to charge what a customer deemed to be a reasonable price and thereby generate more reimbursable revenue. Ranges without sufficient funds from other sources charged higher rates. The Commander, Army Developmental Test Command admitted that reimbursable rates are directly attributable to funding needs, less institutional costs.

As an example of how dramatic the differences could be in funding streams from one range location to another, Kwajalein received \$65.2 million in research, development, test, and evaluation funding from the Army to support a complete range of base operations to include schools, hospitals, and stores. No other funding was received as base operations or congressional support. A small amount of CTEIP funding was provided. The table below depicts amounts of funding from varying sources for FY 2002 for one Army, Navy, and Air Force location:

<u>Location</u>	<u>Institutional</u>	<u>Reimbursable</u>	<u>Other</u>	<u>Total</u>
	(in millions)			
Kwajalein	\$ 65.2	\$ 71.4	\$ 4.6	\$141.2
Atlantic	47.3	21.8	0	69.1
Arnold	162.4	90.7	44.5	297.6

## Backlog of Infrastructure and Test Assets

A backlog of infrastructure and test assets occurs when the maintenance and repair or the modernization of an asset (unfunded requirement) is not completed when needed; thus, the accumulation of items not being completed results in a backlog of maintenance and repair of the infrastructure and test assets. The way the Services collected and reported backlog information varies among the ranges.

<sup>1</sup> See Appendix C for complete funding details.

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Reviews of individual projects showed a wide range of planning support for projects from very detailed to unsupported estimates.

**Infrastructure Backlog.** The General Accounting Office (GAO) Report, GAO-03-274, “Defense Infrastructure: Changes in Funding Priorities and Strategic Planning Needed to Improve the Condition of Military Facilities,” dated February 19, 2003, stated that the Services’ information on facility conditions was inconsistent, making it difficult for Congress, DoD, and the Services to direct funds to facilities where they are most needed and to accurately gauge facility conditions. Although DoD developed a standard rating scale to summarize facility conditions (C-ratings), each Service has the latitude to use its own system frequencies, appraisal scales, and validation procedures.

The methods used to calculate the amount of infrastructure backlog were different by range and by Service. The overall reported infrastructure backlog at the ranges varied from \$364.0 million in FY 1999 to \$339.1 million in FY 2002.<sup>1</sup> The reported individual organization backlog ranged from \$250,000 to \$114.5 million in FY 1999, from \$780,000 to \$131.1 million in FY 2000, from \$400,000 to \$142.4 million in 2001, and from \$309,000 to \$120 million in FY 2002.<sup>1</sup> From 2000 to 2002, the reported backlog decreased at 10 ranges and increased at 4 ranges. At two ranges, the backlog was reported only for FY 2002, and three ranges reported no backlog. In addition, reviews of individual projects showed a variation in planning support for projects, which ranged from very detailed to unsupported estimates.

**Army Infrastructure Backlog.** Five Army ranges used the Installation Status Reports to document their infrastructure backlog. Inspectors are used to evaluate the conditions of each facility. Three ranges compiled a maintenance and repair list of needs and requirements, with the unfunded items going on the backlog list.

**Navy Infrastructure Backlog.** Four Navy ranges calculated their infrastructure backlog by performing an annual inspection survey. One Navy range reported no backlog amounts. The reported items were categorized as critical or deferrable.

**Air Force Infrastructure Backlog.** The Air Force ranges calculated their backlogs in various ways. The ranges developed a list of needs and requirements from all of its directorates within the range. This list was then prioritized and sent to headquarters. The unfunded requirements went on the backlog list. Four Air Force ranges generated a Maintenance and Repair requirements list. Items not found for repair became backlog items and were reviewed on a yearly basis. Two ranges used the Budget Execution Review process to generate their backlog lists.

**Test Asset Backlog.** The backlog of test assets also varied greatly among the ranges, and the systems used to account for backlog were different. All Navy ranges stated that they had no backlog (unfunded requirements) of test assets. Three ranges combined the backlog of infrastructure and test assets, further complicating comparability. One range showed a cumulative amount with no breakout of prior year totals. For FY 2002, the backlog for the Army and Air Force ranged from \$4.5 million to \$392.1 million.<sup>1</sup> Four Army ranges used the

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<sup>1</sup> See Appendix C for complete funding details.

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Instrumentation Development Acquisition Program to collect and report backlog information. The projects were prioritized according to importance, with unfunded projects becoming backlog. Until the Services start maintaining test asset backlogs in the same manner, a realistic comparison of the status of one range to another cannot be made.

**Future Investments at the Ranges.** The ranges' plans showed the investments in infrastructure and test assets that were required to test future weapon systems. Eighteen of the 19 ranges had documented their plans for range improvements for future fiscal years. The remaining range did not provide any documented planned improvements. White Sands Missile Range identified \$689 million in range improvements for FYs 2003 through 2010. The Air Force's 30th Space Wing had more than \$1 billion in planned improvements for FYs 2003 through 2007, and the Nevada Test and Training range had \$456.7 million in planned improvements for FYs 2003 through 2007. However, those plans were all predicated on sufficient funding to implement the improvements.

## Accounting Systems

**Accounting Systems Used by Ranges.** Congress proposed that all test ranges use a uniform accounting system for charging costs to test customers. However, the different accounting systems used by the ranges limited the level of comparisons that could be done within the timeframe of our review. Four Army ranges used the Standard Operations and Maintenance Army Research Developmental System when charging the test customers. Two Army ranges used the Command Information Management System which, according to the Director, Army Test and Evaluation Command, further refines the Standard Operations and Maintenance Army Research Development Systems. Five Air Force ranges and one Navy range used the Job Order Cost Accounting System. One Air Force range used more than one system. Three Navy ranges started using the System Application and Products accounting system in FY 2003. Another Navy range used the Business Information System to track test costs. Thus, the 19 ranges used different accounting systems when charging costs to the test customers.

## Conclusion

By minimizing the differences in the manner, method, and amounts of funding in the collection and reporting of backlog data and in the accounting systems, senior DoD managers can use comparable data when making investment and funding decisions for ranges and their assets. Program managers would also be able to make more informed decisions about testing at the ranges. The Under Secretary of Defense (Comptroller) could assist the Director, Operational Test and Evaluation in minimizing those differences and increasing comparability.

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## Recommendations, Management Comments, and Audit Response

**Revised Recommendation.** As a result of management comments, we revised Recommendations 1. and 2. We redirected Recommendations 1. and 2. to the Under Secretary of Defense (Comptroller) as the primary office for action because the recommendations concern accounting and financial management. We also changed Recommendation 2. to refer to the Financial Management Regulation rather than DoD Directive 3200.11 for developing a uniform funding system.

**We recommend that the Under Secretary of Defense (Comptroller), in coordination with the Director, Operational Test and Evaluation:**

**1. Develop a single financial management and accounting system for test ranges.**

**Management Comments.** The Director, Operational Test and Evaluation concurred. Although not required to comment, the Director, Army Test and Evaluation Command concurred, stating that the Bob Stump National Defense Authorization Act for FY 2003 directed the Secretary of Defense to implement a single financial management and accounting system for all DoD test and evaluation facilities by September 30, 2006.

**2. Revise the Financial Management Regulation (DoD 7000.14-R) to provide consistency in types and methods of funding, uniformity in classifying direct and indirect costs billable to DoD and Non-DoD customers, and consistent methods for collecting and reporting backlogs.**

**Management Comments.** The Director, Operational Test and Evaluation stated that the Financial Management Regulation rather than the DoD Directive 3200.11 is the primary source of financial policy; DoD Directive 3200.11 merely refers to the policy specified in DoD 7000.14-R.

**Audit Response.** We revised the draft recommendation to omit DoD Directive 3200.11 and include the Financial Management Regulation.

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## Appendix A. Scope and Methodology

We examined the funding at 19 ranges; the test and infrastructure backlog in maintenance, modernization and repair of instrumentation, and test assets; and analysis and control systems for FYs 1998 through 2002. We also examined investment and operations funding associated with the MRTFB to determine the degree of compliance with DoD Directive 3200.11.

We conducted interviews on the MRTFB funding and backlog and examined key documentation dated from FYs 1998 through 2002. Key documentation included a backlog of maintenance and repair of infrastructure and test assets, MRTFB exhibit sheets containing institutional and customer funding, range master plans, and command briefings. We obtained funding and workload information from MRTFB personnel and records. We did not validate the accuracy of the data obtained to source documents. We also examined the investment, maintenance, and operations funding associated with the MRTFB.

We did not examine the Central Test and Evaluation Investment Program. We collected funding data, but did not determine whether funds used met the needs for multi-Service test capabilities and whether programs were being procured by the Services. Those tasks will be accomplished during the next phase of the review. We performed this audit from July 2002 through August 2003 in accordance with generally accepted government auditing standards.

**Use of Computer-Processed Data.** We did not use computer-processed data to perform this audit.

**General Accounting Office High-Risk Area.** The General Accounting Office has identified several high-risk areas in DoD. This report provides coverage of the DoD Infrastructure Management high-risk area.

### Management Control Program Review

We did not review the management control program because it was not an announced objective. This audit was conducted in response to a request by the Director, Operational Test and Evaluation

### Prior Coverage

During the past 5 years the General Accounting Office (GAO) has issued one report on the condition of military facilities. Unrestricted GAO reports can be accessed over the Internet at <http://www.gao.gov/>.

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**GAO**

GAO Report No. GAO-03-274, "Defense Infrastructure: Changes in Funding Priorities and Strategic Planning Needed to Improve the Condition of Military Facilities," February 19, 2003

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## **Appendix B. Ranges**

### **Army**

White Sands Missile Range (White Sands)  
Aberdeen Test Center (Aberdeen)  
High Energy Laser Systems Test Facility (HELSTF)  
Yuma Proving Ground (Yuma)  
Dugway Proving Ground (Dugway)  
U.S. Army Kwajalein Atoll (Kwajalein)

### **Navy**

Naval Air Warfare Center – Weapons Division, Point Mugu  
Naval Air Warfare Center – Weapons Division, China Lake  
Naval Air Warfare Center – Aircraft Division, Patuxent River (Pax River)  
Atlantic Undersea Test and Evaluation Center (AUTEK)  
Pacific Missile Range Facility (PMRF)

### **Air Force**

45th Space Wing (Patrick Air Force Base)  
30th Space Wing (Vandenberg Air Force Base)  
Air Armament Center, 46th Test Wing (Eglin Air Force Base)  
Nevada Test and Training Range (NTTR)  
Utah Test and Training Range (UTTR)  
Arnold Engineering Development Center (AEDC)  
Air Force Flight Test Center (AFFTC)

### **Defense Information Systems Agency**

Joint Interoperability Test Command (JITC)

### Categories of Funding Sources

<u>Range</u>	<u>Institutional</u>	<u>Reimbursable</u>	<u>Congressional Add-ons</u>	<u>CTEIP</u>	<u>Other Agencies</u>	<u>Total Other Funds</u>	<u>I&amp;M<sup>1</sup></u>
<b>Army</b>							
White Sands	x <sup>2</sup>	X	X	X	-	X	3
Aberdeen	x <sup>2</sup>	X	-	X	X	X	3
HELSTF <sup>4</sup>	x	X	X	-	-	X	X
Yuma	x	X	X	X	X	X	3
Dugway	x	X	X	X	-	X	3
Kwajalein	x <sup>2</sup>	X	-	X	X	X	X
<b>Navy</b>							
Point Mugu	x <sup>2</sup>	X	-	X	-	X	X
China Lake	x <sup>2</sup>	X	-	X	-	X	X
Patuxent River	x	X	X	X	-	X	X
Atlantic	x	X	-	-	-	-	X
Pacific Missile Range	x <sup>2</sup>	X	X	-	X	-	-
<b>Air Force</b>							
Patrick	x	X	X	-	-	-	X
Vandenberg	x	X	X	-	X	-	-
Eglin	x	X	-	X	-	X	X
NTTR <sup>5</sup>	x	X	X	-	-	X	X
UTTR <sup>6</sup>	x	X	X	-	X	X	X
Arnold	x	X	X	X	-	X	X
Air Force Flight	x	X	-	X	-	X	X
<b>DISA<sup>7</sup></b>							
JITC <sup>8</sup>	x	X	-	X	-	-	-

## Appendix C. Range-Specific Results

<sup>1</sup>Improvement and Modernization.

<sup>2</sup> RDT&E funds are synonymous with institutional funding.

<sup>3</sup> Improvement and Modernization amounts were not provided.

<sup>4</sup> High Energy Laser Systems Test Facility.

<sup>5</sup> Nevada Test and Training Range.

<sup>6</sup> Utah Test and Training Range.

<sup>7</sup> Defense Information Systems Agency.

<sup>8</sup> Joint Interoperability Test Command.

**Percentage of Reimbursement Funds to Total Funding for FYs 1998 through 2002<sup>1</sup>**

<u>Range</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u> (percent)	<u>FY 2001</u>	<u>FY 2002</u>
<b>Army</b>					
White Sands	42	43	39	41	43
Aberdeen	65	65	65	70	72
HELSTF <sup>2</sup>	<sup>3</sup>	<sup>3</sup>	16	16	13
Yuma	69	60	60	48	45
Dugway	31	34	34	41	37
Kwajalein	18	20	22	22	27
<b>Navy</b>					
Point Mugu	49	45	47	46	49
China Lake	49	45	47	46	49
Patuxent River	<sup>3</sup>	49	50	51	50
Atlantic	31	25	30	25	32
Pacific Missile Range	27	29	29	22	22
<b>Air Force</b>					
Patrick	28	29	24	23	27
Vandenberg	34	35	51	49	44
Eglin	<sup>3</sup>	75	73	77	78
NTTR <sup>4</sup>	23	24	22	25	24
UTTR <sup>5</sup>	36	29	28	26	25
Arnold	35	39	38	31	30
Air Force Flight	47	46	43	45	49
<b>DISA<sup>6</sup></b>					
JITC <sup>7</sup>	64	65	65	54	54 <sup>8</sup>

<sup>1</sup> Total funds represent reported total operating activity; funds, such as congressional add-on, would not be included in this total.

<sup>2</sup> High Energy Laser Systems Test Facility.

<sup>3</sup> Data were not provided.

<sup>4</sup> Nevada Test and Training Range.

<sup>5</sup> Utah Test and Training Range.

<sup>6</sup> Defense Information Systems Agency.

<sup>7</sup> Joint Interoperability Test Command.

<sup>8</sup> Calculation was made through June 30, 2002.

**Percentage of Institutional Funds to Total Funding for FYs 1998 through 2002<sup>1</sup>**

<u>Range</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u> (percent)	<u>FY 2001</u>	<u>FY 2002</u>
<b>Army</b>					
White Sands	34	39	44	39	43
Aberdeen	32	31	33	27	26
HELSTF <sup>2</sup>	<sup>3</sup>	<sup>3</sup>	84	81	83
Yuma	19	21	23	34	34
Dugway	48	46	50	42	41
Kwajalein	28	26	23	27	24
<b>Navy</b>					
Point Mugu	51	55	53	54	51
China Lake	51	55	53	54	51
Patuxent River	<sup>3</sup>	28	31	33	30
Atlantic	69	75	70	75	68
Pacific Missile Range	50	61	63	49	49
<b>Air Force</b>					
Patrick	72	71	76	77	73
Vandenberg	66	65	49	51	56
Eglin	<sup>3</sup>	25	27	23	22
NTTR <sup>4</sup>	77	75	78	75	76
UTTR <sup>5</sup>	64	71	72	74	75
Arnold	64	60	62	68	68
Air Force Flight	53	54	57	55	51
<b>DISA<sup>6</sup></b>					
JITC <sup>7</sup>	13	12	12	19	19 <sup>8</sup>

<sup>1</sup> Total funds represent reported total operating activity; funds, such as congressional add-on, would not be included in this total.

<sup>2</sup> High Energy Laser Systems Test Facility.

<sup>3</sup> Data were not provided.

<sup>4</sup> Nevada Test and Training Range.

<sup>5</sup> Utah Test and Training Range.

<sup>6</sup> Defense Information Systems Agency.

<sup>7</sup> Joint Information Test Command.

<sup>8</sup> Calculation was made through June 30, 2002.

### Percentage of Funds Withheld

<u>Range</u>	<u>Developmental Test Command</u>	<u>Assistant Secretary of Navy/NAVAIR<sup>1</sup>/Navy Comptroller</u> (percent)	<u>Air Force Materiel Command</u>	<u>Other</u>
<b>Army</b>				
White Sands	15 <sup>2</sup>	0	0	7
Aberdeen	15 <sup>2</sup>	0	0	7
Yuma	15 <sup>2</sup>	0	0	7
Dugway	15 <sup>2</sup>	0	0	7
Kwajalein	0	0	0	1-3 <sup>3</sup>
<b>Navy<sup>4</sup></b>				
Point Mugu	0	2/5	0	0
China Lake	0	2/5	0	0
Patuxent River	0	2/5	0	0
Atlantic	0	2/5	0	0
Pacific Missile Range	0	14	0	0
<b>Air Force</b>				
Arnold	0	0	8	0
Air Force Flight	0	0	7	0

<sup>1</sup> Naval Air Systems Command.

<sup>2</sup> Withheld from Test Instrumentation Sustainment Funds.

<sup>3</sup> Funds withheld is for FYs 1999 through 2002.

<sup>4</sup> ASN withheld 2 percent and NAVAIR withheld 5 percent.

## Compensation for Shortfalls in Funding

<u>Range</u>	<u>Raise Rates</u>	<u>Surcharge</u>	<u>Appeal to Headquarters</u>	<u>Redirect Program Funds</u>	<u>Funds From Other Agencies</u>	<u>Cutting Contract Labor Hours &amp; Workload</u>	<u>Cut Expenses</u>	<u>No Shortfalls</u>
<b>Army</b>								
White Sands	x	x	x	x	-	x	x	-
Aberdeen	-	x	-	-	-	-	-	-
HELSTF <sup>1</sup>	-	-	-	-	-	-	x	-
Yuma	x	x	x	x	x	x	x	-
Dugway	-	x	-	-	-	-	-	-
Kwajalein	-	-	-	-	-	x	x	-
<b>Navy</b>								
Point Mugu	-	-	x	x	-	-	-	-
China Lake	-	-	x	x	-	-	-	-
Patuxent River	-	-	x	-	-	-	-	-
Atlantic	-	-	x	-	-	x	x	-
Pacific Missile Range	-	-	-	-	-	-	-	x
<b>Air Force</b>								
Patrick	-	-	-	x	-	x	-	-
Vandenberg	-	-	x	-	-	x	-	-
Eglin	x	-	x	x	-	-	x	-
NTTR <sup>2</sup>	x	-	x	-	-	-	-	-
UTTR <sup>3</sup>	-	-	x	-	-	x	-	-
Arnold	-	-	x	x	-	x	x	-
Air Force Flight	-	-	x	-	-	x	x	-
<b>DISA<sup>4</sup></b>								
JITC <sup>5</sup>	-	-	-	-	-	-	-	x

<sup>1</sup> High Energy Laser Systems Test Facility.

<sup>2</sup> Nevada Test and Training Range.

<sup>3</sup> Utah Test and Training Range.

<sup>4</sup> Defense Information Systems Agency.

<sup>5</sup> Joint Interoperability Test Command.

## Number of Tests and Customers for FYs 2001 through 2002

<u>Range</u>	<u>Number of Tests Conducted</u>		<u>Number of Customers</u>	
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2001</u>	<u>FY 2002</u>
<b>Army</b>				
White Sands	228	217	59	55
Aberdeen	635 <sup>1</sup>	615 <sup>2</sup>	149 <sup>1</sup>	124 <sup>2</sup>
HELSTF <sup>3</sup>	41	29	9	9
Yuma	364	347	72	82
Dugway	165	143 <sup>4</sup>	58	52
Kwajalein	41,776 <sup>5</sup>	41,887 <sup>5</sup>	3	3
<b>Navy</b>				
Point Mugu	2,980	3,622	6	6
China Lake	7,878	8,223	6	6
Patuxent River	1,065	980 <sup>6</sup>	7	7
Atlantic	264	299	27	33
Pacific Missile Range	172	320	11	10
<b>Air Force</b>				
Patrick	8	8	8	8
Vandenberg	8 <sup>9</sup>	7 <sup>9</sup>	7	6
Eglin	4,377	3,485 <sup>10</sup>	40 <sup>11</sup>	40 <sup>10</sup>
Nevada Test and Training Range	62	82	35	35
Utah Test and Training Range	46	58	20	20
Arnold	66	65 <sup>4</sup>	34	34
Air Force Flight	501	379	37	27
<b>DISA<sup>12</sup></b>				
JITC <sup>13</sup>	13	13	13	13

<sup>1</sup> Data for July 2001.

<sup>2</sup> Data for July 2002.

<sup>3</sup> High Energy Laser Systems Test Facility.

<sup>4</sup> Data through August 2002.

<sup>5</sup> Number of tests conducted consist of sensor testing; testing classification differs from other ranges.

<sup>6</sup> Test events were projected for 2002.

<sup>7</sup> Information was not provided.

<sup>8</sup> Information was too voluminous to provide.

<sup>9</sup> Number of launches.

<sup>10</sup> Data through July 2002.

<sup>11</sup> Numbers are approximate.

<sup>12</sup> Defense Information Systems Agency.

<sup>13</sup> Joint Interoperability Test Command conducted 1,800 tests but did not provide a breakout by fiscal year.

## Identification of Infrastructure and Test Assets Backlog

<u>Range</u>	<u>Installation Status Report</u>	<u>Installation Planning Board</u>	<u>Annual Inspection Survey</u>	<u>Instrumentation Development Acquisition Program</u>	<u>Maintenance and Repair List</u>	<u>Budget Execution Process</u>	<u>No Backlog</u>
<b>Army</b>							
White Sands	x	-	-	x	-	-	-
Aberdeen	x	-	-	x	-	-	-
HELSTF <sup>1</sup>	-	-	-	-	x	-	-
Yuma	x	-	-	x	x	-	-
Dugway	x	x	-	x	-	-	-
Kwajalein	x	-	-	-	x	-	-
<b>Navy</b>							
Point Mugu	-	-	x	-	-	-	-
China Lake	-	-	x	-	-	-	-
Patuxent River	-	-	x	-	-	-	-
Atlantic	-	-	x	-	-	-	-
Pacific Missile Range	-	-	-	-	-	-	x
<b>Air Force</b>							
Patrick	-	-	-	-	x	-	-
Vandenberg	-	-	-	-	-	x	-
Eglin	-	-	-	-	x	-	-
NTTR <sup>2</sup>	-	-	-	-	-	x	-
UTTR <sup>3</sup>	-	-	-	-	-	-	-
Arnold	-	-	-	-	x	-	-
Air Force Flight	-	x	x	-	x	-	-
<b>DISA<sup>4</sup></b>							
JITC <sup>5</sup>	-	-	-	-	-	-	x
<b>Total</b>	<b>5</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>7</b>	<b>2</b>	<b>2</b>

<sup>1</sup> High Energy Laser Systems Test Facility.

<sup>2</sup> Nevada Test and Training Range.

<sup>3</sup> Utah Test and Training Range backlog is maintained by the Air Force Materiel Command which only reports a backlog of test assets.

<sup>4</sup> Defense Information Systems Agency.

<sup>5</sup> Joint Interoperability Test Command.

## Backlog of Infrastructure for FYs 1998 through 2002

<u>Range</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Increase or Decrease from 2000- 2002</u>
(\$ in millions)						
<b>Army</b>						
White Sands	\$12.90	\$29.90	\$16.50	\$15.10	\$40.50	Increase
Aberdeen	8.50	2.00	3.50	4.20	1.70	Decrease
HELSTF <sup>1</sup>	2	2	2	2	8.00	-
Yuma	11.50	11.40	12.40	8.90	17.70	Increase
Dugway	66.00	89.10	117.20	80.30	4.80	Decrease
Kwajalein	10.30	3.00	8.70	8.00	26.00	Increase
<b>Navy</b>						
Point Mugu/China Lake <sup>3</sup>	2	57.60	52.80	47.20	46.80	Decrease
Patuxent River	2	25.80	23.90	21.80	18.70	Decrease
Atlantic	5.40	5.40	8.40	8.10	10.10	Increase
Pacific Missile Range	n/a <sup>5</sup>	-				
<b>Air Force</b>						
Patrick	46.70	21.60	50.30	37.50	36.80	Decrease
Vandenberg	2	1.60	4.50	.40	1.20	Decrease
Eglin	2	2	2	2	3.30	-
NTTR <sup>4</sup>	3.60	1.80	3.30	9.60	3.20	Decrease
UTTR	n/a <sup>5</sup>	-				
Arnold	123.40	114.50	131.10	142.40	120.00	Decrease
Air Force Flight	0	.30	.80	.80	.30	Decrease
<b>DISA<sup>6</sup></b>						
JITC <sup>7</sup>	n/a <sup>5</sup>	-				

<sup>1</sup> High Energy Laser Systems Test Facility.

<sup>2</sup> Data not provided.

<sup>3</sup> Point Mugu and China Lake operate as a single business organization; therefore, data will be shown as one entity.

<sup>4</sup> Nevada Test and Training Range.

<sup>5</sup> Not applicable; organization does not have a backlog of infrastructure.

<sup>6</sup> Defense Information Systems Agency.

<sup>7</sup> Joint Interoperability Test Command.

### Backlog of Test Assets for FYs 1998 through 2002

<u>Range</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u> (\$ in millions)	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total</u>
<b>Army</b>						
White Sands	\$104.90	\$298.20	\$259.90	\$337.90	\$392.10	\$1,393.00
Aberdeen	132.90	149.50	146.60	165.30	127.70	722.00
HELSTF <sup>1</sup>	n/a <sup>2</sup>	n/a <sup>2</sup>	n/a <sup>2</sup>	n/a <sup>2</sup>	n/a <sup>2</sup>	n/a <sup>2</sup>
Yuma	0 <sup>3</sup>	22.50	26.80	26.90	27.30	103.50
Dugway	11.60	0 <sup>3</sup>	52.30	27.80	14.90	106.60
Kwajalein	2	2	2	20.80 <sup>2</sup>	17.20 <sup>2</sup>	38.00 <sup>2</sup>
<b>Air Force</b>						
Patrick	n/a <sup>2</sup>	n/a <sup>2</sup>	n/a <sup>2</sup>	n/a <sup>2</sup>	n/a <sup>2</sup>	n/a <sup>2</sup>
Eglin	n/a <sup>4</sup>	n/a <sup>4</sup>	n/a <sup>4</sup>	n/a <sup>4</sup>	n/a <sup>4</sup>	138.30
UTTR	38.10	38.10	38.10	38.10	53.20	205.60
Arnold	13.70	10.00	13.20	27.20	29.50	93.60
Air Force Flight	25.40	.60	1.30	3.70	4.50	35.50

<sup>1</sup> High Energy Laser Systems Test Facility.

<sup>2</sup> Backlog of test assets is combined with infrastructure.

<sup>3</sup> Out Year Program Objective Memorandum requirements submitted by Yuma in FY 1998 and Dugway in FY 1999 were less than current Program Objective Memorandum funding guidance for those years.

<sup>4</sup> The total amount was not broken out by year.

## Accounting Systems

<u>Range</u>	<u>Standard O&amp;M<sup>1</sup> Army Research &amp; Development Systems</u>	<u>Enterprise Resource Planning/Systems Applications and Products</u>	<u>Business Information System</u>	<u>Job Order Cost Accounting System</u>	<u>Command Information Management Systems</u>	<u>Microbas</u>	<u>JITC Project and Accounting System</u>	<u>Other</u>
<b>Army</b>								
White Sands	x	-	-	-	-	-	-	-
Aberdeen	x	-	-	-	-	-	-	-
HELSTF <sup>2</sup>	x	-	-	-	x	-	-	-
Yuma	x	-	-	-	-	-	-	-
Dugway	x	-	-	-	-	-	-	-
Kwajalein	x	-	-	-	x	-	-	-
<b>Navy</b>								
Point Mugu	-	x	-	-	-	-	-	-
China Lake	-	x	-	-	-	-	-	-
Patuxent River	-	x	-	-	-	-	-	-
Atlantic	-	-	-	x	-	-	-	-
Pacific Missile Range	-	-	x	-	-	-	-	-
<b>Air Force</b>								
Patrick	-	-	-	x	-	-	-	-
Vandenberg	-	-	-	x	-	-	-	-
Eglin	-	-	-	x	-	-	-	x
Nevada Test/Training	-	-	-	-	-	-	-	x
Utah Test/Training	-	-	-	x	-	-	-	-
Arnold	-	-	-	-	-	x	-	-
Air Force Flight	-	-	-	x	-	-	-	-
<b>DISA<sup>3</sup></b>								
JITC <sup>4</sup>	-	-	-	-	-	-	x	-
<b>Total</b>	<b>6</b>	<b>3</b>	<b>1</b>	<b>6</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>

<sup>1</sup> Operations and Maintenance.

<sup>2</sup> High Energy Laser Systems Test Facility.

<sup>3</sup> Defense Information Systems Agency.

<sup>4</sup> Joint Interoperability Test Command.

## Future Range Improvements

<u>Range</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u> (\$ in millions)	<u>FY 2006</u>	<u>FY 2007</u>
<b>Army</b>					
White Sands	1	1	1	1	1
Aberdeen	2	2	2	2	2
HELSTF <sup>3</sup>	2	1.30	2.60	4.60	4.40
Yuma	7.80	6.80	6.70	8.50	10.30
Dugway	10.00	20.90	15.40	10.80	8.00
Kwajalein	12.70	12.00	2.70	3.40	3.40
<b>Navy</b>					
Point Mugu <sup>4</sup>	21.70	48.70	22.20	2	2
Patuxent River	12.60	14.10	15.40	2	2
Atlantic	7.50	4.40	6.20	2	2
Pacific Missile Range	5	5	5	5	5
<b>Air Force</b>					
Patrick	116.50	134.10	148.70	168.60	167.90
Vandenberg	200.00	205.00	205.00	250.00	250.00
Eglin	77.10	61.90	37.40	25.70	10.90
Nevada Test/Training	50.70	112.20	95.80	97.70	100.30
UTTR <sup>6</sup>	.20	.60	.70	.04	.2
Arnold	26.20	119.20	36.80	43.90	27.60
Air Force Flight	34.00	40.20	44.20	41.80	40.20
<b>DISA<sup>7</sup></b>					
JITC <sup>8</sup>	n/a <sup>8</sup>	n/a <sup>8</sup>	n/a <sup>8</sup>	n/a <sup>8</sup>	n/a <sup>8</sup>

<sup>1</sup> White Sands Missile Range has \$689 million planned for range improvements in FYs 2003 through 2010; amounts could not be broken out.

<sup>2</sup> Data not provided to support future range improvement amounts.

<sup>3</sup> High Energy Laser Systems Test Facility.

<sup>4</sup> Point Mugu and China Lake operate as a single business organization; therefore data will be shown as one entity.

<sup>5</sup> Pacific Missile Range has \$389 million planned for range improvements in FYs 2003 through 2009.

<sup>6</sup> Utah Test and Training Range amounts were estimated.

<sup>7</sup> Defense Information Systems Agency.

<sup>8</sup> Joint Interoperability Test Command; not applicable, no future funds planned.

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## **Appendix D. Report Distribution**

### **Office of the Secretary of Defense**

Under Secretary of Defense for Acquisition, Technology, and Logistics  
Under Secretary of Defense (Comptroller)/Chief Financial Officer  
Under Secretary of Defense for Personnel and Readiness  
Vice Chairman of the Joint Chiefs of Staff  
Director, Operational Test and Evaluation

### **Department of the Army**

Assistant Secretary of the Army (Financial Management and Comptroller)  
Commander, U.S. Army Aberdeen Test Center  
Commander, U.S. Army Dugway Proving Ground  
Commanding General, U.S. Army Space and Missile Defense Command  
Commander, U.S. Army Yuma Proving Ground  
Commanding General, U.S. Army White Sands Missile Range  
Commander, U.S. Army Kwajalein Atoll  
Auditor General, Department of the Army  
Director, High Energy Laser Systems Test Facility

### **Department of the Navy**

Commander, Naval Air Warfare Center – Aircraft Division  
Commander, Naval Air Warfare Center – Weapons Division  
Commander, Atlantic Undersea Test and Evaluation Center  
Commander, Pacific Missile Range Facility  
Naval Inspector General  
Auditor General, Department of the Navy

### **Department of the Air Force**

Assistant Secretary of the Air Force (Financial Management and Comptroller)  
Commander, 45th Space Wing, Patrick Air Force Base  
Commander, 30th Space Wing, Vandenberg Air Force Base  
Commander, Arnold Engineering Development Center  
Commander, Nevada Test and Training Range  
Commander, Air Force Flight Test Center  
Commander, Hill Air Force Base  
Commander, 46th Test Wing, Eglin Air Force Base  
Auditor General, Department of the Air Force

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## **Other Defense Organization**

Commander, Joint Interoperability Test Command, Defense Information Systems Agency

## **Non-Defense Federal Organization**

Office of Management and Budget

## **Congressional Committees and Subcommittees, Chairman and Ranking Minority Member**

Senate Committee on Appropriations

Senate Subcommittee on Defense, Committee on Appropriations

Senate Committee on Armed Services

Senate Committee on Governmental Affairs

House Committee on Appropriations

House Subcommittee on Defense, Committee on Appropriations

House Committee on Armed Services

House Committee on Government Reform

House Subcommittee of Government Efficiency and Financial Management, Committee on Government Reform

House Subcommittee on National Security, Emerging Threats, and International Relations, Committee on Government Reform

House Subcommittee on Technology, Information Policy, Intergovernmental Relations, and the Census, Committee on Government Reform



# Director, Operational Test and Evaluation Comments

Final Report  
Reference



OPERATIONAL TEST  
AND EVALUATION

OFFICE OF THE SECRETARY OF DEFENSE  
1700 DEFENSE PENTAGON  
WASHINGTON, DC 20301-1700

SEP 17 2003

MEMORANDUM FOR DEPUTY INSPECTOR GENERAL FOR AUDITING

SUBJECT: Inspector General's Draft Report on Major Range and Test Facility Base  
(Project No. D2002AB-0177)

Attached for your consideration are my comments to the subject draft report. I concur with the Conclusion section as written. I will concur with the Recommendation section, contingent upon the incorporation of the following changes:

First Paragraph, As Read: "We recommend that the Director, Operational Test and Evaluation, in coordination with the Under Secretary of Defense (Comptroller):"

Should Read: "*We recommend that the Under Secretary of Defense (Comptroller) in coordination with the Director, Operational Test and Evaluation:*"

Rationale: This change will reflect the Under Secretary's role in developing and implementing fiscal controls and will reflect the Deputy Secretary's direction in his memorandum, "Improved Management of Department of Defense (DoD) Test and Evaluation (T&E) Facilities," dated December 20, 2002.

Subparagraph 2, As Read: "Revise DoD Directive 3200.11...for collecting and reporting backlogs."

Should Read: "*Revise the Financial Management Regulation (DoD 7000.14-R)...for collecting and reporting backlogs.*"

Rationale: The Financial Management Regulation, DoD 7000.14-R, is the primary source of financial policy; DoDD 3200.11 merely points to the policy specified in DoD 7000.14-R.

My point of contact for this action is Mr. Derrick Hinton. He can be reached at (703) 681-4024 ext. 157 or by e-mail at [d.hinton@osd.mil](mailto:d.hinton@osd.mil).

  
Thomas P. Christie  
Director

Attachment:  
Editorial Comments



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**Comments to the “Draft of a Proposed Report – Major Range and Test Facility Base”  
prepared by the Office of the Inspector General of the Department of Defense**

**Executive Summary page-Results**

- Although it is a fact that comparable data does not exist as a result of varying accounting systems and methods of practices among the Services, it should not be construed that OSD, the Service Secretaries, and program managers are not able to make informed decisions. Recommend that you merely state that practices vary to a large degree.
- The Financial Management Regulation, DoD 7000.14-R, is the primary source of financial policy. DoDD 3200.11 does not contain funding or charge policy information, but merely refers to the appropriate sections of the DoD Financial Management Regulation (DoD 7000.14-R).
- Recommend that the phrase “methods of collecting and reporting backlogs” be clarified. As used in this report, the term includes unfunded modernization projects—this is not the conventional use, which is the backlog of maintenance and repair (BMAR) and which normally pertains to maintenance and repair of property and equipment already owned, rather than unfunded modernization.

**Page 3: Funding and Page 4: Manner of Funding**

- These discussions deal with the fact that the various ranges receive differing amounts of funding from differing sources; and that as a consequence, ranges with less funding may be at a competitive disadvantage and may not comply with the uniform funding policy intended in DoD 7000.14-R; that OSD and the Service Secretaries may not have comparable data upon which to base decisions; and that program managers may have lacked the relevant information to make informed decisions.

Differences in funding do not necessarily indicate a problem, as assumed here. A facility’s funding structure depends upon the Service to which it belongs, whether it is a host activity, whether it is partly operated within a working capital fund (Navy), etc. For example, some of these activities are funded principally in the Service Operations and Maintenance appropriations, while others are funded in their Service RDT&E appropriations. Some are host activities and have base support and real property maintenance funds; others are tenant activities and do not have these funds, except for maintenance funds for their T&E facilities. Some of the host activities have military medical facilities and some do not. The entire analysis could have been simplified by confining the discussion to funding and funding issues associated only with testing and test infrastructure—and not addressing the base operations and maintenance issues. Further, the report speculates on the possible impact on OSD, Service Secretaries, and program managers’ decision-making, but offers no evidence that such problems, in fact, exist.

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As a consequence, some real issues are imbedded in otherwise unnecessary information. The fact that some installations do not get sufficient institutional test funding to comply with the uniform funding policy, and therefore overcharge their test customers, is a critical point regardless of whether it inhibits decision-making. The fact that different accounting and reporting systems are used across the MRTFB supports the Congressional mandate, in the FY2003 National Defense Authorization Act, that OSD implement a single financial management and accounting system for T&E activities.

We believe that this section should be rewritten to focus on funding that supports the performance of testing, the operation and maintenance of test infrastructure, modernization of test capabilities, the management and accounting for such funds, and whether the amount of such funds is less than required to comply with uniform funding policy.

- **Congressional Add-Ons.** As read, it appears as if there are 20 ranges (11 ranges received add-ons, while 9 ranges did not). The relevancy of calling out Arnold Engineering Development Center is unclear. Recommend you delete that sentence and just conclude with “The amount of congressional add-ons varied from \$2 million to \$26 million.”
- The discussion in this section covers CTEIP investment funds but does not mention Service investment funds. The description of Institutional Funds does not seem to cover these investment funds either. However, Appendix C, page 14, does include Improvement and Modernization as a source of funding for the ranges. Were Service investment funds included in the analysis? If so, recommend you add a discussion of these funds under the section labeled “Manner of Funding.”

Page 8: **Backlog....**

- Recommend that the term of choice be “backlog of maintenance and repair,” rather than simply backlog. However, as used in this report, backlog includes unfunded modernization projects. This section talks about the different ways to track/compute backlog and asserts that this is a bad thing. The Services do many things differently. As long as the method of calculation of the backlog is matched against an appropriate budgeting process, it is not clear that the exact method of calculation matters. The issue is not whether the Air Force, Army, or Navy has a bigger or smaller backlog than the others—it is whether each is addressing the problem of reducing the backlog, or at least not letting the backlog increase, or that it treats T&E backlogs fairly compared to those associated with the rest of the real property in that Service.

**General items in much of the discussion**

- Recommend that only institutional, military personnel, and user funding be included in institutional support discussions. Recommend that only investment and real property maintenance activity type funding be included in the backlog discussions. This will provide standard variables for computing total funding, thereby eliminating inconsistencies resulting from differing accounting practices of the Services.

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- The “**Number of Tests**” chart on page 19 obviously reflects significantly different definitions of what constitutes a test, by different installations, even within a single Service. It should not be the basis of comparisons among the various installations, although it might provide insight into trends at individual installations.
- All Data Sheet type charts/sheets in the Appendix should define the common sources and types of data used to create the charts/sheets. The footnotes should define specific data/lack of data exceptions for each chart/sheet.

# Army Test and Evaluation Command

Final Report  
Reference



DEPARTMENT OF THE ARMY  
OFFICE OF THE CHIEF OF STAFF  
200 ARMY PENTAGON  
WASHINGTON DC 20310-0200



REPLY TO  
ATTENTION OF  
DACS-TE

1 October 2003

MEMORANDUM FOR DEPARTMENT OF DEFENSE INSPECTOR GENERAL  
400 ARMY NAVY DRIVE, ARLINGTON, VA 22202-4704

Subject: Report on Major Range and Test Facility Base (Project No. D2002AB-0177)

Thank you for the opportunity to comment on the subject report. The Army Test and Evaluation Command (ATEC) has provided comments regarding their installations under separate cover. I have attached comments received from the Army Space and Missile Defense Command (SMDC) concerning Kwajalein and the High Energy Laser Systems Test Facility (HELSTF). I endorse both ATEC's and SMDC's comments and urge your favorable consideration of them in preparing your final report.

We agree with your conclusion that comparable inter-Service data is not readily available and that the Under Secretary of Defense (Comptroller) is the appropriate office to institute any corrective action deemed appropriate. The Bob Stump National Defense Authorization Act for FY 2003 directs the Secretary of Defense to implement a single financial management and accounting system for all DoD test and evaluation facilities by September 30, 2006. We believe the establishment of such a system will accommodate your recommendation. Additionally, that same act directed the establishment of a Defense Test Resource Management Center and charged them with budget oversight and review responsibilities that should also help facilitate your recommendations.

We do not agree with the assertion that the Secretaries of the Military Departments need comparable inter-Service accounting data to make informed decisions regarding individual Service test and evaluation investments. The Services maintain cognizance of test and evaluation capabilities within each Service and factor that information into their investment decisions.

Printed on  Recycled Paper

DACS-TE  
Subject: Report on Major Range and Test Facility Base (Project No. D2002AB-0177)

For future reference, it would be extremely helpful to include this office as well as the headquarters of our test activities (ATEC and SMDC) on your distribution. This office will take the lead to coordinate and consolidate Army test and evaluation actions.

Encl  
as

  
John B Foulkes  
Director, Test and Evaluation  
Management Agency

U.S. Army Space and Missile Defense Command comments to the MRTFB draft report (Project No. D2002AB-0177)

General

1. Page 10, draft Recommendation: We urge that, at a minimum, at least one representative from each MRTFB and this command be involved in meetings resulting in any revision to DoD Directive 3200.11. Rationale: As DoDIG team members learned, each of the MRTFB's has unique circumstances to be worked through in coming up with common systems and common implementation guidance.

2. As a general comment, we understand that a certain approach/methodology was used that resulted in the numbers/percentages reflected in the charts in this report. This resulted in reported missing data for certain years for HELSTF and USAKA as well as different funding breakout percentages from those that might be reflected under differing assumptions.

3. Distribution, pg. 25: Request distribution to the Commanding General, U.S. Army Space & Missile Defense Command and the Director, High Energy Laser Systems Test Facility be added under Department of the Army addressees. Also, request that distribution be made to Commander, U.S. Army Kwajalein Atoll (USAKA), rather than Commander, Reagan Test Site, since USAKA is listed as the MRTFB in DoDD 3200.11.

4. Please correct footnotes on all charts to reflect that HELSTF stands for "High Energy Laser Systems Test Facility."

Specific Comments:

1. Page 5, sentence "...Kwajalein also received funds from the Missile Defense Agency in trade for a lower military housing rate....": Suggest that be replaced with: "...Kwajalein received funding to refurbish transient housing and, in turn, MDA transient personnel received lower billeting rates until the funds were amortized...." Rationale: Correctness.

2. Page 10, 6th line: Revise "...Two Army ranges used the Command Information Management System..." to read "...Two Army ranges used the Command Information Management System as a further refinement of SOMARDS data...." Rationale: Correctness.

3. Page 23, Accounting Systems: Place an "x" by HELSTF and Kwajalein under column "Standard O&M Army Research & Development Systems" and leave "x's" currently under column entitled "Command Information Management System." Rationale: Correctness.

4. Page 22, Backlog of Test Assets for FYs 1998 through 2002: Footnote 2 should be added to Kwajalein line for FYs 2001-2002 and Total. Rationale: Correctness--backlog of test assets is combined with infrastructure.

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Encl

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Final Report  
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The SMDC Point of contact is:

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SMDC-RD-TE  
Phone: 256/955-2736, DSN 645-2736  
Fax: 256/955-2738

# Army Developmental Test Command

Final Report  
Reference



REPLY TO  
ATTENTION OF

CSTE-DTC-PL

DEPARTMENT OF THE ARMY  
HEADQUARTERS, U.S. ARMY DEVELOPMENTAL TEST COMMAND  
314 LONGS CORNER ROAD  
ABERDEEN PROVING GROUND MD 21005-5055



SEP 30 2003

MEMORANDUM THRU Major General Robert E. Armbruster, Commander, U.S. Army Test and Evaluation Command, 4501 Ford Avenue, Alexandria, VA 22302-1458

FOR Mr. Michael Simpson, Office of the Deputy Assistant Inspector General for Auditing, 400 Army Navy Drive, 6<sup>th</sup> Floor, Arlington, VA 22202

SUBJECT: Draft of a Proposed Report on Audit of Major Range and Test Facility Base (Project No. D2002AB-0177)

1. References:

- a. Memorandum, DODIG, 4 Dec 02, SAB.
- b. Draft DODIG Report, 15 Aug 03, SAB.

2. This command has reviewed both the initial memorandum report (reference 1a) and the draft final report (reference 1b) and has identified several areas that are incorrect or misleading. The initial memorandum report was published without this command having the benefit of an outbrief from the audit team after its visits to our test ranges. The current draft final report has not incorporated many of the comments we submitted based on our review of the initial memorandum report.

3. Enclosed are specific comments based on our review of the current draft report. Data to support these comments are being made available to your inspectors.

4. The DTC staff point of contact is Mr. Francis Bartosik, CSTE-DTC-PL, pl@dtc.army.mil, DSN 298-1190.

FOR THE COMMANDER:

*Mike - overall comment about  
Army focus vs. DTC focus  
Encl remains my  
biggest concern*

BRIAN M. SIMMONS  
Deputy to the Commander/Technical Director

CF:

Dr. John Foulkes, Director, U.S. Army Test and Evaluation Management Agency,  
102 Army Pentagon, Room 3C567, Washington, DC 20310-0102

**Developmental Test Command (DTC)  
Comments on DODIG MRTFB Proposed Report**

The following comments all pertain to the "Draft of a Proposed Report: Major Range and Test Facility Base, August 15, 2003".

1. General Comments: Throughout the document the point is made that a direct comparison between ranges cannot be made. Nowhere in the document is it specified why a direct comparison is needed. Focus should be on comparing the ability of the ranges to complete their missions and how well the ranges' overall funding and infrastructure requirements are being met by their respective parent Services.

Throughout the document the terms direct funding and institutional funding are used interchangeably. This should be corrected by using the terms institutional funding to indicate those funds that pay for indirect costs and reimbursable funding for those funds that come directly from the customer.

2. Pg 4, paragraph beginning with "Reimbursable Funds".

Comment: In this paragraph it is stated that the number of tests conducted accounts for the variance in reimbursement percentage differences at the ranges. This is not true. The reimbursable percentage rates are directly related to the required total operational funds needed to operate the ranges and how much institutional funding is provided to cover those costs.

3. Pg 5, second paragraph under "Training". "For example, the Electronic Proving Ground at Fort Huachuca was under the control of the White Sands Missile Range, which does both test and training missions. Because the Electronic Proving Ground funding was intermingled with White Sands Missile Range funding, comparisons are further complicated."

Comment: The WSMR training mission is very small compared to the overall test mission. Of the total of 3.5M direct labor hours (DLHs) completed in FY02 by WSMR, approximately 3200 DLHs (less than 1 percent) were completed for training exercises. The funds WSMR receives from the institutional program element and the reimbursable funds it receives to support the training mission are maintained separately.

4. Pg 6, paragraph under "Funding by Headquarters". "For example, the Developmental Test Command used labor hours as the basis for allocating institutional funds that the ranges received. This method is based on workload and, although it considers some non-labor factors, individual Army ranges complained that it was not necessarily based on actual needs because the higher use ranges generated more reimbursable funds and would likely need less institutional funds. Ranges with smaller workloads received fewer funds when they possibly need more because they were receiving lower reimbursable funds. This method also does not reward efficiencies on non-labor-intensive testing or learning-curve improvements."

Comment: The DTC PE 65601 requirements and allocation model takes into consideration labor and non-labor factors. The model takes into consideration the PBG labor force requirement at each test center (i.e., those test centers

requiring larger labor pools also get more funding to pay for those people), takes into account local test center labor factors (average salary and reimbursement rates), inflation, utility costs, equipment maintenance, host support, spare parts, TDY, and training requirements. The pressure for efficiencies comes not from the institutional side of the house but from the paying test customer. If test center test costs escalate high enough, their customers will not come to the MRTFB to have work done, which then results in lower workload and a lower institutional funding requirement and allocation.

Added,  
Page 4

In regard to the technology instrumentation accounts, only some of the institutional funds at DTC are allocated based on workload. A portion of the instrumentation funding is directed by the headquarters to solve instrumentation problems to benefit multiple sites such as the common instrumentation mentioned above. Another portion is directed to improving the modeling and simulation capabilities used for testing and testing support in the Virtual Proving Ground initiative. Only about 40 percent of the Test Technology program element is allocated by workload, based on the notion that the people closest to the problem know best how to apply the resources.

5. Pg 6, paragraph beginning with "Funding Reduction by Headquarters": "The Army withholds 7 percent for contingencies from four ranges. In addition, the Army's Development Test Command withholds 15 percent of its ranges' test instrumentation sustainment funds for command initiatives such as common instrumentation."

Comment: DTC does not withhold any dollars from its test centers (White Sands Missile Range (WSMR), Aberdeen Test Center (ATC), Dugway Proving Ground (DPG), Yuma Proving Ground (YPG)). Army Test and Evaluation Command (ATEC) HQ holds 3 percent from every RDI&F line within ATEC and 4 percent from every OMA line in ATEC. These dollars are used to pay DA taxes and Congressional reductions. If there are any dollars left from the payment of taxes and reductions, ATEC uses those dollars for high priority command unfinanced requirements. This comment was provided by the DTC HQ Director of Resources and Personnel to the audit team in Nov 02.

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Page 6

The quote from the report is an incorrect interpretation of the DTC HQ-Directed Test Investment Initiatives effort. Funding for this effort is calculated as 15 percent of the Sustaining Non-Major Instrumentation (SNI) portion of the Test Technology and Sustaining Instrumentation program element. In FY03, this amount is actually 7.65 percent of the program element. More importantly, these funds are not withheld from the ranges. On the contrary, they are allocated to the ranges in the year of execution to support year of execution requirements such as the need for common range instrumentation among the DTC ranges. This effort exists for the purpose of mitigating the very issues outlined in the report; namely, the need for uniformity and the recognition that some ranges require more assistance than their workload-related allocation might provide.

6. Pg 6, paragraph under "Funding Shortfalls": "Ranges under the Army's Developmental Test Command added a surcharge to help alleviate any shortfalls. According to Developmental Test Command officials, the surcharge is needed because the Army provided little institutional funding to pay for the facility upgrades and revitalization that are required for adequate maintenance. In addition, base support funding and the level of support services decreased.

Developmental Test Command customers were charged a prorated share of base operations costs, which contravenes DOD Directive 3200.11. However, after ranges cut expenses to the maximum possible extent, they may have had little choice but to increase costs."

Comment: For the most part this is an accurate portrayal of how customers are charged for indirect costs that are not their responsibility. However, this paragraph fails to mention that Army has recognized this in their FY04 POM build and provided for Program Element (PE) 65601 to be fully funded across the POM largely alleviating this condition as long as the funding line holds.

7. Pg 7, paragraph under "Customer Charges", "In addition, each range made independent determinations of appropriate direct and indirect costs to be charged to customers".

Comment: The DOD 3200.11 is a statement of an objective (i.e., uniform funding) and goals but it does not layout specific guidelines and methodologies as to how to achieve that objective or apportion the costs associated with an MRTFB. As such, the ranges are left to their own devices as to how to determine what is direct costs versus indirect costs.

8. Pg 7, paragraph under "Range Workloads", "The workloads of each range varied significantly based on the number of customers and tests conducted."

Comment: The greater the number of DLIs produced, the bigger the support bill and thus the greater institutional funding required. Case in point at DTC is that WSMR generates the most customer revenue but also receives the lion's share of the institutional funds because of this fact.

9. Pg 8, first paragraph at top of page, continuing from previous page: "In addition, ranges that had sufficient funds from various sources had more flexibility to charge what a customer deemed to be a reasonable price and thereby generate more reimbursable revenue. Ranges without sufficient funds from other sources charged higher rates and had fewer customers."

Comment: These data are speculative and unsubstantiated. HELSTF refutes this point as they are totally institutionally funded and would operate this way totally irrespective of whether they have one or a thousand customers.

10. Pg 9, paragraph under "Army Infrastructure Backlog," "Five Army ranges used the Installation Status Reports to document the infrastructure backlog. Inspectors are used to evaluate the conditions of each facility. Three ranges compiled a maintenance and repair list of needs and requirements, with the unfunded items going on the backlog list. Two other Army ranges used the Instrumentation Development and Acquisition Program to collect and report backlog information."

Page 9, paragraph under "Test Assets Backlog". "Four Army ranges used the Instrumentation Development and Acquisition Program to collect and report backlog information".

Comment: These statements refer to two very different processes but seem to imply that they are synonymous. During the conduct of this study, three Army ranges, WSMR, DPG, and YPG were responsible for their own installation

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management; therefore, they were required to submit Installation Status Reports to document their backlog of maintenance and repair associated with the installation. Beginning in Oct 02, this has become an Installation Management Agency responsibility. On the other hand, the Instrumentation Development and Acquisition Program (IDAP) is used by all ranges within ATEC and DTC to document and prioritize their instrumentation and test technology requirements and solutions. As such, the IDAP serves to document the backlog of test technology requirements within ATEC/DTC, and a listing of backlogged requirements exists within all ATEC/DTC ranges.

11. Pg 9, paragraph under "Future Investments at the Test Ranges". "The ranges' plans showed the investments in infrastructure and test assets that were planned to test future weapons systems".

Comment: The word "planned" should be changed to "required". The focus of the audit is to look at the health of the ranges from a funding of their requirements perspective. The audit should look hard at the ranges' requirements and what is budgeted in the Services' programs to meet those requirements.

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Page 10

SNI - Sustaining Non-Major Instrumentation (combines RDI and TTI beginning in FY02)

PBS - Production Base Support

From the above Solution Types, the ones that identify instrumentation projects that contribute to a backlog of instrumentation infrastructure (Test Assets) are Major, Meth, RDI & TTI (now called SNI) and PBS. Major instrumentation is comprised of large, complex multi-million dollar instrumentation and test support equipment developments that are managed and executed by a dedicated Program Manager (PM ITTS). It is funded from PE 64759/D984. The combination of Meth, RDI and TTI (or SNI) is considered non-major instrumentation and is funded from PE 65602/D628. Non-major instrumentation is the development of new test technology and advanced instrumentation, modeling and simulation efforts, test methods and procedures, and life-cycle replacement of worn-out and obsolete instrumentation and equipment used in RDTE testing. PBS is similar to the non-major instrumentation, but it involves the life-cycle replacement of worn-out and obsolete instrumentation and equipment used in production testing. PBS is funded from the Army Procurement Appropriations.

DTC HQ maintains a master set of IDAP databases containing all requirements submitted from our test centers across the POM. Each of these databases has POM requirements for instrumentation across 7 years. For example, the 1998 IDAP collected POM requirements for FY98-FY04. The 1999 IDAP collected requirements for FY99-FY05, and so on. These databases provide an accurate source for historical data on test center requirements for Test Assets.

Querying these databases for the Major, Non-major and PBS requirements at ATC, DPG, WSMR and YPG produced the following results:

FY98: \$635M, FY99: \$870M, FY00: \$880M, FY01: \$979M and FY02: \$1,003M.

These are the total requirements for Test Assets submitted over the POM in each of these years. Note that the only data point unavailable was the PBS requirement in FY00, which was interpolated from FY99 and FY01 data points.

POM funding (actual and projected over the outyears) is:

FY98: \$398M, FY99: \$402M, FY00: \$394M, FY01: \$421M and FY02: \$441M.

Subtracting out the funded programs yields a backlog of Test Assets of:

FY98: \$237M, FY99: \$468M, FY00: \$486M, FY01: \$558M and FY02: \$562M.

Breaking this down by test center yields:

**Backlog of Test Assets for FYs 1998 through 2002  
(\$M)**

Range	FY1998	FY1999	FY2000	FY2001	FY2002
White Sands	104.9	298.2	259.9	337.9	392.1
Aberdeen	132.9	149.5	146.6	165.3	127.7
Yuma	0*	22.5	26.8	26.9	27.3
Dugway	11.6	0*	52.3	27.8	14.9

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Page 23

\*Outyear POM Requirements submitted by YPG in FY98 and DPG in FY99 were less than current POM funding guidance for those years. As such, \$11.9M in FY98 and \$2.6M in FY99 was subtracted from the total backlog in those respective years.

Given the linear application of these databases to the test centers and the constant definition of "Test Asset" within this data, request the IG use data in the above table to document DTC's backlog of Test Assets. All backup data and summary tables will be provided.

**Backlog of Test Assets for FYs 1998 through 2002 (\$M)**

Range	FY1998	FY1999	FY2000	FY2001	FY2002
White Sands	104.9	298.2	259.9	337.9	392.1
Aberdeen	132.9	149.5	146.6	165.3	127.7
Yuma	0	22.5	26.8	26.9	27.3
Dugway	11.6	0	52.3	27.8	14.9

## **Team Members**

The Acquisition Management Directorate, Office of the Deputy Inspector General for Auditing of the Department of Defense prepared this report. Personnel of the Office of the Inspector General of the Department of Defense who contributed to the report are listed below.

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