Audit Report

YEAR 2000 INITIATIVES AT THE
PACIFIC MISSILE RANGE FACILITY

Report No. 99-038 November 23, 1998

Office of the Inspector General
Department of Defense

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Acronyms

PMRF	Pacific Missile Range Facility
Y2K	Year 2000

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

November 23, 1998

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE)
ASSISTANT SECRETARY OF THE NAVY (FINANCIAL MANAGEMENT AND COMPTROLLER)
DIRECTOR, TEST SYSTEMS ENGINEERING AND EVALUATION

SUBJECT: Audit of Year 2000 Initiatives at the Pacific Missile Range Facility (Report No. 99-038)

We are providing this report for information and use. We provided a draft of this report on October 19, 1998. Because the report contained no recommendations, written comments were not required, and none were received.

We appreciate the courtesies extended to the audit staff. Questions on the audit should be directed to Mr. Raymond A. Spencer at (703) 604-9071 (DSN 664-9071), or Mr. Thomas S. Bartoszek at (703) 604-9014 (DSN 664-9014). See Appendix C for the report distribution. Audit team members are listed inside the back cover.

Robert J. Lieberman
Assistant Inspector General
for Auditing

Office of the Inspector General, DoD

Report No. 99-038 **November 23, 1998**
Project No. 8AS-0032.16

Year 2000 Initiatives at the Pacific Missile Range Facility

Executive Summary

Introduction. This is one of a series of reports being issued by the Inspector General, DoD, in accordance with an informal partnership with the Chief Information Officer, DoD, to monitor DoD efforts to address the year 2000 computing challenge. For a listing of audit projects addressing the issue, see the year 2000 webpage on the IGnet at http://www.ignet.gov.

Information technology systems have typically used two digits to represent the year, such as "98" representing 1998, to conserve electronic data storage and reduce operating costs. With the two-digit format, however, the year 2000 is indistinguishable from 1900. As a result of this ambiguity, computers and associated systems and application programs that use dates to calculate, compare, and sort could generate incorrect results when working with years after 1999.

Audit Objectives. The overall audit objective was to determine whether the year 2000 initiatives at the Pacific Missile Range Facility to address the year 2000 computer problems were effective and whether they complied with the DoD Year 2000 Management Plan. Specifically, we determined whether the Pacific Missile Range Facility resolved and reported date-processing issues for potential year 2000 related system failures that could affect the Navy's test and evaluation activities.

Audit Results. Navy officials at the Pacific Missile Range Facility initiated positive actions during the audit to accurately report all systems', including boats, monthly status to DoD and to estimate the cost to fix or replace test and evaluation systems that are not year 2000 compliant and report any adverse budget impacts. The audit results are detailed in Part I.

Management Comments. We provided a draft of this report on October 19, 1998. Because the report contained no recommendations, written comments were not required, and none were received. Therefore, we are publishing this report in final form.

Table of Contents

Executive Summary i

Part I - Audit Results

Audit Background 2
Audit Objectives 3
Pacific Missile Range System Inventory and Cost 4

Part II - Additional Information

Appendix A. Audit Process
Scope 8
Methodology 9
Summary of Prior Coverage 9
Appendix B. Pacific Missile Range Facility Memorandum 10
Appendix C. Report Distribution 11

Part I - Audit Results

Audit Background

Because of the potential failure of computers to run or function throughout the Government, the President issued an Executive Order, "Year 2000 Conversion," February 4, 1998, making it policy that Federal agencies ensure that no critical Federal program experiences disruption because of the Y2K problem and that the head of each agency ensure that efforts to address the Y2K problem receive the highest priority attention in the agency.

The Secretary of Defense issued the memorandum "Year 2000 Compliance" on August 7, 1998, and stated that the Y2K computer problem is a critical national Defense issue. He also stated that Military Departments will be responsible for ensuring that the list of mission-critical systems under their respective purview is accurately reported in the DoD Y2K database effective October 1, 1998. The DoD Components must report and explain each change in mission-critical designation to the Office of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) within 1 month of the change.

The Deputy Secretary of Defense issued the memorandum "Year 2000 (Y2K) Verification of National Security Capabilities" on August 24, 1998, which states that the Chief of Naval Operations must certify that Components have tested the Y2K information technology and national security system capabilities in accordance with the DoD Management Plan.

Public Law 105-271, "Year 2000 Information and Readiness Disclosure Act," October 19, 1998, is intended to encourage the disclosure and exchange of information about computer processing problems, solutions, test practices and test results, and related matters in connection with the transition to the Y2K.

DoD Year 2000 Management Plan. The new target completion date for implementing mission-critical systems is December 31, 1998. The DoD Management Plan also states the criteria for DoD Components to determine the appropriate Y2K phase for each system noted in the quarterly report. Each phase listed below represents a major Y2K program activity or segment. Target completion dates range from December 1996 through March 1999. Each system must meet defined exit criteria before proceeding into the next phase.

- Awareness Phase. Organization and planning take place. Target completion date: December 31, 1996.

- Assessment Phase. Scope of Y2K impact is identified and system-level analysis takes place. Target completion date: June 30, 1997.

- Renovation Phase. Required system fixes are accomplished. Target completion date is June 30, 1998, for mission-critical systems and September 30, 1998, for all other systems.

- Validation Phase. Systems are confirmed as Y2K compliant through assorted testing-and-compliance processes. Target completion date is September 30, 1998, for mission-critical systems and January 31, 1999, for all other systems.

- Implementation Phase. Systems are fully operational after being certified as Y2K compliant. Target completion date is December 31, 1998, for mission-critical systems and March 31, 1999, for all other systems.

Pacific Missile Range Facility. The Pacific Missile Range Facility (PMRF) is a Navy facility, established under the cognizance of the Chief of Naval Operations, located on the Island of Kauai in Hawaii. The mission of the facility is to provide range services in a multi-threat and dimensional environment, which includes evaluating training and test missions. The PMRF supports training exercises and developmental tests for space, air, surface and subsurface units. It also provides simultaneous real-time tracking information on participant's targets and weapons. The PMRF can transmit real-time test and exercise data to other facilities through microwave, fiber-optics and satellite communication resources.

Audit Objectives

The overall audit objective was to determine whether PMRF planning and management to address the year 2000 computer problems were effective and whether they complied with the DoD Year 2000 Management Plan. Specifically, we determined whether PMRF resolved and reported date-processing issues for potential Y2K-related system failures that could affect the Navy's test and evaluation activities. See Appendix A for a discussion of the scope and methodology and a summary of prior coverage.

Pacific Missile Range System Inventory and Cost

The Navy officials at PMRF initiated positive actions to accurately report all systems' monthly status to DoD to estimate the cost to fix or replace systems that were not Y2K compliant and report any adverse budget impacts. These actions occurred after the audit team identified that systems on PMRF boats were not included in the monthly DoD status report and that Y2K costs estimates and the budget for fixing noncompliant test and evaluation systems and their budget impact were not prepared. Navy officials agreed to inventory systems on their boats, prepare cost estimates and potential budget impacts for fixing the Y2K problem on affected systems, and report the results on the next monthly report to DoD. As a result, Y2K progress reporting for the Pacific Missile Range is improved.

Y2K Monthly Report

A June 19, 1998, memorandum from the Assistant Secretary of Defense (Command, Control, Communications and Intelligence) requires DoD Components to submit monthly Y2K status reports to DoD and the Office of Management and Budget. The reports allow them to oversee and monitor the DoD compliance effort, identify and prioritize risks, and solve Y2K problems quickly, because if erroneous information goes unrecognized, computers and weapon systems may fail, and the problem will perpetuate through interfaces and other automated information systems.

Management Plan Requirements

In his role as DoD Chief Information Officer, the Assistant Secretary of Defense (Command, Control, Communication, and Intelligence) issued the DoD Management Plan, Version 1.0, April 1997. The DoD Management Plan requires each Component to gather and analyze information on all systems to determine the size and scope of the Y2K problem and determine which, if any, system components must be replaced, repaired, or retired. In addition, the DoD Management Plan requires that each Component develop a Y2K cost estimate to repair existing systems and report any budget shortfalls to higher command authority.

The DoD Management Plan, For Signature, Draft Version 2.0, June 1998, accelerated the target completion dates for the renovation, validation, and implementation phases.

Inventory of Systems

Of the 24 test and evaluation systems on which the PMRF reported monthly, it did not include the systems on PMRF range boats and did not analyze them for potential Y2K impact.

The PMRF is assigned three range boats, which consist of a Torpedo Weapons Retriever boat and two weapons recovery boats. The boats launch underwater targets and recover underwater targets and weapons. They also perform electronic warfare support, surface target control, acoustic test support, range surveillance, and research operations. The PMRF did not include the three boats on their inventory of test and evaluation systems and did not record them on the monthly report to DoD due to an oversight.

In September 1998, we informed Navy officials that they should inventory, report and evaluate the boats and their systems for Y2K compliance. The officials agreed and placed the systems on their inventory listing and their report to DoD. In addition, the officials agreed to assess them for any Y2K impact and complete their analysis by the end of November 1998. See Appendix B. These actions will ensure that all systems and their status will be evaluated and reported, and the risk of erroneous information going unrecognized, the risk of computer failure, and negative impacts on interfaces and other automated information systems will be reduced.

Cost Estimate and Budget Impact

The Navy PMRF did not estimate the cost to make all 24 of the test and evaluation systems Y2K compliant and did not report any budget shortfalls. The Navy PMRF did estimate the cost of fixing the 817 facilities systems at $431,000. Officials planned to prepare an estimate for all systems, but had not as of September 1998. The Navy PMRF agreed to prepare a cost assessment by the end of November 1998 and report any budget impact to the next higher command.

Conclusion

We commend the Navy PMRF officials for taking prompt action to record the test and evaluation systems on the boats, to analyze them for potential Y2K impact, and to prepare a cost estimate for them and report any adverse budget impacts. As a result, DoD officials will have an accurate status report of the Navy systems at PMRF and an accurate estimate of the cost to repair or replace them. These actions will all help to ensure that no test and evaluation system at the PMRF is adversely affected by the Y2K problem. Because management took corrective action during the audit, no recommendations are necessary.

Part II - Additional Information

Appendix A. Audit Process

This is one in a series of reports being issued by the Inspector General, DoD, in accordance with an informal partnership with the Chief Information Officer, DoD, to monitor DoD efforts to address the Y2K computing challenge. For a listing of audit projects addressing this issue, see the Y2K webpage on IGnet at <http://www.ignet.gov>.

Scope

We reviewed 12 of 24 testing and evaluation systems at the PMRF, located on Kauai, Hawaii. We also identified three systems on PMRF boats.

DoD-wide Corporate Level Government Performance and Results Act Goals. In response to the Government Performance and Results Act, the Department of Defense has established 6 DoD-wide corporate level performance objectives and 14 goals for meeting these objectives. The report pertains to achievement of the following objective and goal:

- **Objective:** Prepare now for an uncertain future.
- **Goal:** Pursue a focused modernization effort that maintains U.S. qualitative superiority in key war fighting capabilities. **(DoD-3)**

DoD Functional Area Reform Goals. Most major DoD functional areas have also established performance improvement reform objectives and goals. This report pertains to achievement for the following functional area objective and goal:

Information Technology Management Functional Area.

- **Objective:** Provide services that satisfy customer information needs.
- **Goal:** Upgrade technology base. **(ITM-2.3)**

General Accounting Office High-Risk Area. In its identification of risk areas, the General Accounting Office has specifically designated risk in resolution of the Y2K problem as high. This report provides coverage of that problem and of the overall Information Management and Technology high-risk area.

Methodology

Audit Type, Dates, and Standards. We performed this economy and efficiency audit from August through September 1998, in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD. We did not use computer-processed data to perform this audit.

Contacts During the Audit. We visited or contacted individuals and organizations within the DoD. Further details are available on request.

Management Control Program. We did not review the management control program related to the overall audit objective because DoD recognized the Y2K issue as a material management control weakness area in the FY 1997 Annual Statement of Assurance.

Summary of Prior Coverage

The General Accounting Office and the Inspector General, DoD, have conducted multiple reviews related to Y2K issues. General Accounting Office reports can be accessed over the Internet at HTTP://www.gao.gov. Inspector General, DoD, reports can be accessed over the Internet at HTTP://www.dodig.osd.mil.

Appendix B. Pacific Missile Range Facility Memorandum

DEPARTMENT OF THE NAVY
PACIFIC MISSILE RANGE FACILITY
P.O. BOX 128
KEKAHA, HAWAII 96752-0128

IN REPLY REFER TO:

11000
7300/RM
11 September 1998

Mr. Tom Bartoszek, CPA
Department of Defense
Assistant Inspector General For Auditing
400 Army Navy Drive, Room 600
Arlington VA 22202

Dear Mr. Bartoszek,

After discussing the Pacific Missile Range Facility's (PMRF) Year 2000 (Y2K) assessment with you yesterday, I agree that we need to take action in the following two areas.

a. Range Boats — Weapon Recovery Boats and Surface Targets — The fact that the Range Boats have not been assessed is an oversight that we became aware of approximately 2 weeks ago. As you have seen, these systems are largely mechanical with some electronics. This being the case, I believe we will be able to finish a Y2K assessment by October 15, 1998. At that point we will begin any improvement programs that may be needed to bring the range boats into Y2K compliance.

b. Cost assessment -- Another area where we are starting to concentrate is the actual cost assessment of bringing systems into Y2K compliance. As you know some of the systems entail installation (and testing) of upgraded operating systems which we have already purchased. I feel confident that we will have the cost assessment complete by October 30, 1998.

I assure you that these two areas will be completed as part of our Y2K compliance program.

Sincerely,

R. L. MINERO
Deputy Range Operations Officer
PMRF Y2K POC

Appendix C. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition and Technology
  Director, Defense Procurement
  Director, Defense Logistics Studies Information Exchange
  Director, Test, Systems, Engineering and Evaluation
Under Secretary of Defense (Comptroller)
  Deputy Chief Financial Officer
  Deputy Comptroller (Program/Budget)
Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)
  Year 2000 Oversight and Contingency Planning Office
Assistant Secretary of Defense (Public Affairs)

Department of the Army

Assistant Secretary of the Army (Financial Management and Comptroller)
Auditor General, Department of the Army
Chief Information Officer, Department of the Army
Inspector General, Department of the Army

Department of the Navy

Chief of Naval Operations
Assistant Secretary of the Navy (Financial Management and Comptroller)
Auditor General, Department of the Navy
Chief Information Officer, Department of the Navy
Inspector General, Department of the Navy

Department of the Air Force

Assistant Secretary of the Air Force (Financial Management and Comptroller)
Auditor General, Air Force Audit Agency
Chief Information Officer, Department of the Air Force
Inspector General, Department of the Air Force

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  Inspector General, Defense Information Systems Agency

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Inspector General, National Security Agency
Inspector General, Defense Intelligence Agency
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Director, Defense Information and Financial Management Systems, Accounting and Information Management Division, General Accounting Office

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Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
Senate Special Committee on the Year 2000 Problem
House Committee on Appropriations
House Subcommittee on National Security, Committee on Appropriations
House Committee on Government Reform and Oversight
House Subcommittee on Government Management, Information, and Technology, Committee on Government Reform and Oversight
House Subcommittee on National Security, International Affairs, and Criminal Justice, Committee on Government Reform and Oversight
House Committee on National Security

Audit Team Members

This report was prepared by the Acquisition Management Directorate, the Assistant Inspector General for Auditing, DoD

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