Audit Report

YEAR 2000 COMPLIANCE OF THE
GLOBAL TRANSPORT NETWORK

Report No. 99-133 April 13, 1999

Office of the Inspector General
Department of Defense

Additional Copies

To obtain additional copies of this audit report, contact the Secondary Reports Distribution Unit of the Audit Followup and Technical Support Directorate at (703) 604-8937 (DSN 664-8937) or FAX (703) 604-8932 or visit the Inspector General, DoD, Home Page at: www.dodig.osd.mil.

Suggestions for Future Audits

To suggest ideas for or to request future audits, contact the Audit Followup and Technical Support Directorate at (703) 604-8940 (DSN 664-8940) or fax (703) 604-8932. Ideas and requests can also be mailed to:

OAIG-AUD (ATTN: AFTS Audit Suggestions)
Inspector General, Department of Defense
400 Army Navy Drive (Room 801)
Arlington, Virginia 22202-2884

Defense Hotline

To report fraud, waste, or abuse, contact the Defense Hotline by calling (800) 424-9098; by sending an electronic message to Hotline@DODIG.OSD.MIL; or by writing to the Defense Hotline, The Pentagon, Washington, D.C. 20301-1900. The identity of each writer and caller is fully protected.

Acronyms

GTN	Global Transportation Network
PACOM	U.S. Pacific Command
PMO	Program Management Office
Y2K	Year 2000

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

April 13, 1999

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE)
COMMANDER IN CHIEF, U.S. PACIFIC COMMAND
COMMANDER IN CHIEF, U.S. TRANSPORTATION COMMAND

SUBJECT: Audit Report on Year 2000 Compliance of the Global Transportation Network (Report No. 99-133)

We are providing this report for your information and use. 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 efforts to address the year 2000 computing challenge.

Because this report contains no recommendations, no written comments were required and none were received. Therefore, we are publishing this report in final form.

We appreciate the courtesies extended to the audit staff. For additional information on this report, please contact Ms. Judith I. Padgett, at (703) 604-9217 (DSN 664-9217) (jpadgett@dodig.osd.mil) or Mr. Wayne K. Million, at (703) 604-9312 (DSN 664-9312) (wmillion@dodig.osd.mil). See Appendix B for the report distribution. The 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. 99-133 **April 13, 1999**
(Project No. 9CC-0086.00)

Year 2000 Compliance of the Global Transportation Network

Executive Summary

Introduction. 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 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 www.ignet.gov.

Objectives. The overall audit objective was to assess the status of selected Military Department and Defense Agency mission-critical systems, identified by U.S. Pacific Command and U.S. Forces Korea as being of particular importance to them, in attaining compliance with year 2000 conversion requirements. Specifically, we reviewed the progress of each system towards year 2000 compliance, testing and integration of modifications, and contingency plans. For this report, we reviewed the U.S. Transportation Command system called the Global Transportation Network.

Results. The U.S. Transportation Command certified the Global Transportation Network system as year 2000 compliant on December 10, 1998. The Global Transportation Network program manager followed the U.S. Transportation Command certification process documented in "Year 2000 Compliance Action Plan," that required a comprehensive verification of the system testing, interfaces, and contingency documentation before certification. The program management office's adherence to the certification process minimized the risk of failure associated with year 2000 processing for the Global Transportation Network system.

Table of Contents

Executive Summary i

Introduction

Background 1
Objectives 2

Finding

Year 2000 Compliance of the Global Transportation Network System 3

Appendixes

A. Audit Process
Scope 5
Methodology 6
Summary of Prior Coverage 6
B. Report Distribution 7

Background

The Executive Order, "Year 2000 Conversion," February 4, 1998, mandates that Federal agencies do what is necessary to ensure that no critical Federal program experiences disruption because of the year 2000 (Y2K) computing problem. The Executive Order also requires that the head of each agency ensure that efforts to address Y2K issues receive the highest priority.

On August 7, 1998, the Secretary of Defense issued a memorandum, "Year 2000 Compliance," which defined the Y2K computer problem as a critical national defense issue. The Secretary's memorandum also requires each of the Unified Commanders-in-Chief to report the status of Y2K implementation within their commands and the commands of subordinate Components starting after October 1998.

U.S. Pacific Command. The U.S. Pacific Command (PACOM) is the largest of the nine unified commands in the Department of Defense. The PACOM area of responsibility includes 50 percent of the earth's surface and two-thirds of the world's population. It encompasses more than 100 million square miles, stretching from the west coast of North and South America to the east coast of Africa, and from the Arctic in the north to the Antarctic in the south. It also includes Alaska, Hawaii, and eight U.S. territories. The overall mission of PACOM is to promote peace, deter aggression, respond to crises, and, if necessary, fight and win to advance security and stability throughout the Asian-Pacific region.

The PACOM, headquartered at Camp Smith, Hawaii, is supported by Component commands from each Service: the U.S. Army Pacific Command, U.S. Pacific Fleet Command, U.S. Pacific Air Force Command, and Marine Forces Pacific Command. In addition, PACOM exercises combatant control over four sub-unified commands within the Pacific region. The sub-unified commands are the U.S. Forces Japan, U.S. Forces Korea, Alaskan Command, and Special Operations Command Pacific.

U.S. Transportation Command. The U.S. Transportation Command (the Command), headquartered at Scott Air Force Base, Illinois, was established in 1987 and is one of nine U.S. unified commands. As the single manager of America's global defense transportation system, the Command is tasked with the coordination of people and transportation assets to allow our country to project and sustain forces, whenever, wherever, and for as long as they are needed.

The Command is composed of three Component commands: the Army Military Traffic Management Command, the Navy Military Sealift Command and the Air Force Air Mobility Command. The Command coordinates missions worldwide using both military and commercial transportation resources. During 1995, the Command supported 76 humanitarian missions and 94 Joint Chiefs of Staff exercises. The Command's sea, air, and land assets continue to support major operations, such as Joint Endeavor in the former Yugoslavia, Provide Comfort in Turkey, and Southern Watch in Iraq.

Global Transportation Network (GTN). GTN is the system designed to provide accurate and timely information on the transportation process to planners and decision makers at the Command. The system also gives the Command's customers, located anywhere in the world, a real-time capability to access both classified and unclassified transportation and deployment information. GTN supports transportation users and providers -- both DoD and commercial, by providing an integrated system of intransit visibility information and command and control capabilities.

Objectives

The overall audit objective was to assess the status of selected Military Department and Defense Agency mission-critical systems, identified by U.S. Pacific Command and U.S. Forces Korea as being of particular importance to them, in attaining compliance with year 2000 conversion requirements. Specifically, we reviewed the progress of each system towards Y2K compliance, testing and integration of modifications, and contingency plans. For this report, we reviewed the U.S. Transportation Command system called the Global Transportation Network. See Appendix A for a discussion of the audit process and prior coverage.

Year 2000 Compliance of the Global Transportation Network System

The Command certified the GTN system as Y2K compliant on December 10, 1998. The GTN Program Management Office (PMO) supported the certification of Y2K compliance in accordance with the Command certification process, documented in the "Year 2000 Compliance Action Plan." That plan implemented DoD Y2K guidance to develop a Y2K compliance action plan and detailed the PMO pursuit of Y2K compliance for GTN. The certification of GTN and deployment of contingency plans minimized the risk of GTN system failure associated with Y2K processing.

Y2K Compliance Action Plan

The Command certified the GTN system as Y2K compliant on December 10, 1998. The GTN PMO kept well-organized documentation to support the certification of Y2K compliance. To aggressively pursue the certification of Y2K compliance for GTN, the PMO followed DoD and Air Force Y2K guidance. In August 1998, the PMO completed the document, "GTN Year 2000 Compliance Action Plan." That document detailed the PMO plan for using the system developer to test GTN hardware and software for Y2K processing and to repair all Y2K-related problems.

Testing. The system developer, Lockheed Martin, tested GTN for Y2K compliance. Modern Technologies Corporation provided test analysis of the Lockheed Martin test methodology for the GTN PMO. The Y2K compliance testing went well beyond Air Force requirements. For example, the PMO had inspected all of the Lockheed Martin-developed code and validated all the applications within GTN. The PMO identified and replaced 9 non-compliant Lockheed Martin-developed stored procedures and 30 pieces of commercial-off-the-shelf software. Further, the staff of the GTN program office reviewed hardware and tested the system over several significant dates out to the year 2005.

Interfaces. The PMO had signed interface agreements with all organizations that were responsible for maintaining GTN feeder systems. The agreements described interface configuration management and program management issues. Also in the agreements, all parties agreed to have frequent and full exchange of information. If any changes are made to the interface by the sending or the receiving system, each will notify the other as soon as the change is determined. According to terms of the agreements, interfacing system managers would give 60-day notices for any changes that would impact the GTN interface.

Certification Process

The PMO used the Air Force Y2K certification process to develop and complete its certification process for GTN. The intent of Air Force Y2K certification process was to:

- guide the certifier through the DoD five-phase process (awareness, assessment, renovation, validation, and implementation);
- provide a consolidated document which records activities demonstrating due diligence;
- provide a system with a continuity document for its certification process; and
- establish a standard baseline process for Air Force certification.

Certifier. The term certifier refers to a quality assurance individual appointed by the commander or designated appointing authority with appropriate organizational and technical knowledge, experience, authority, and commitment. Certifiers were trained by the Air Force Y2K PMO.

Certification Tracking Document. The GTN PMO used the Air Force Y2K Certification Tracking Document to record details about the steps and procedures that the PMO took during the certification process. The GTN certifier reviewed each compliance checklist item and signed his name as he worked through each process phase.

System Operations Contingency Management Plan

The GTN PMO developed a System Operations Contingency Management Plan (the Plan). The Plan detailed how the GTN system manager, system users, and the contractor development, maintenance, and test personnel would handle a total or partial system failure due to Y2K problems. The Plan listed potential problems and corrective actions to be taken. However, during our review, we found that the Plan did not contain specific risk factors and probability of occurrence as part of risk analysis. We notified PMO staff about the missing information in the Plan. The PMO staff agreed with our observation and took immediate corrective action to incorporate risk assessment into the revised Plan.

Conclusion

The Command complied with DoD and Air Force guidance in processing the GTN system Y2K certification. The improvements we suggested were promptly incorporated into GTN procedures and documents; therefore, we have no recommendations.

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 list of audit projects addressing this issue, see the Y2K web page on the IGnet at www.ignet.gov.

Scope

We reviewed and assessed the Y2K compliance status of the Command's GTN System. PACOM identified that system as critical to their mission. We interviewed GTN system officials and reviewed the Y2K compliance action plan, the AF Y2K certification tracking document, interface agreements, test plans, test reports, contingency plans, and the Command certification process to obtain and verify the Y2K compliance status of GTN.

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 the objectives. This 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 of the following functional area objectives and goals.

- **Information Technology Management Functional Area.**
  Objective: Become a mission partner.
  Goal: Serve mission information users as customers. **(ITM-1.2)**
- **Information Technology Management Functional Area.**
  Objective: Provide services that satisfy customer information needs.
  Goal: Modernize and integrate DoD information infrastructure. **(ITM-2.2)**
- **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 program audit from December 1998 to March 1999, 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 DoD. Further details are available upon 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 1998 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 reviewed on the Internet at www.gao.gov. Inspector General, DoD, reports can be reviewed on the Internet at www.dodig.osd.mil.

Appendix B. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition and Technology
  Deputy Under Secretary of Defense (Logistics)
  Director, Defense Logistics Studies Information Exchange
Under Secretary of Defense (Comptroller)
  Deputy Chief Financial Officer
  Deputy Comptroller (Program/Budget)
Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)
  Deputy Chief Information Officer and Deputy Assistant Secretary of Defense (Chief Information Officer Policy and Implementation)
    Principal Director for Year 2000
Assistant Secretary of Defense (Public Affairs)

Joint Staff

Director, Joint Staff

Department of the Army

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

Department of the Navy

Assistant Secretary of the Navy (Financial Management and Comptroller)
Chief Information Officer, Navy
Inspector General, Department of the Navy
Inspector General, Navy Computers and Telecommunications Command
Inspector General of the Marine Corp
Auditor General, Department of the Navy

Department of the Air Force

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

Unified Commands

Commander in Chief, U.S. European Command
Commander in Chief, U.S. Pacific Command
Commander in Chief, U.S. Atlantic Command
Commander in Chief, U.S. Central Command
Commander In Chief, U.S. Special Operations Command
Commander In Chief, U.S. Transportation Command

Defense Organizations

Director, Defense Information Systems Agency
  Chief Information Officer, Defense Information Systems Agency
  Inspector General, Defense Information Systems Agency
  United Kingdom Liaison Officer, Defense Information Systems Agency
Director, National Security Agency
  Inspector General, National Security Agency
Inspector General, Defense Intelligence Agency
Inspector General, National Imagery and Mapping Agency
Inspector General, National Reconnaissance Office

Non-Defense Federal Organizations and Individuals

Office of Management and Budget
  Office of Information and Regulatory Affairs
General Accounting Office
  National Security and Technical International Affairs Division
    Technical Information Center
  Accounting and Information Management Division
    Defense Information and Financial Management Systems

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
Senate Special Committee on the Year 2000 Technology Problem
House Committee on Appropriations
House Committee on Armed Services
House Subcommittee on National Security, Committee on Appropriations
House Committee on Government Reform
House Subcommittee on Government Management, Information, and Technology, Committee on Government Reform
House Subcommittee on National Security, Veterans Affairs, and International Relations, Committee on Government Reform
House Subcommittee on Technology, Committee on Science

Audit Team Members

The Contract Management Directorate, Office of the Assistant Inspector General for Auditing, DoD prepared this report.

Paul J. Granetto
Wayne K. Million
Judith I. Padgett
Wei K. Wu
Terri A. Bellamy