Audit Report

YEAR 2000 COMPUTING PROBLEM AT AIR FORCE MAJOR RANGE AND TEST FACILITIES

Report Number 98-187

August 14, 1998

Office of the Inspector General
Department of Defense

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Acronyms

AFB	Air Force Base
Y2K	Year 2000

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
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ARLINGTON, VIRGINIA 22202

August 14, 1998

MEMORANDUM FOR ASSISTANT SECRETARY OF THE AIR FORCE
(FINANCIAL MANAGEMENT AND COMPTROLLER)
DIRECTOR, TEST, SYSTEMS ENGINEERING AND
EVALUATION

SUBJECT: Year 2000 Computing Problem at Air Force Major Range and Test Facilities
(Report No. 98-187)

We are providing this report for your information and use. We considered management comments on a draft of this report in preparing the final report. Comments on the draft report conform to the requirements of DoD Directive 7650.3 and left no unresolved issues. Therefore, no additional comments are required.

We appreciate the courtesies extended to the audit staff. For additional information on this report, please contact Mr. Raymond A. Spencer at (703) 604-9071 (DSN 664-9071) or Mr. Michael E. Simpson at (703) 604-8972 (DSN 664-8972). 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. 98-187 **August 14, 1998**
(Project No. 8AB-3003)

Year 2000 Computing Problem at Air Force Major Range and Test Facilities

Executive Summary

Introduction. This report 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 in addressing the year 2000 computing challenge. Information technology systems have typically used two digits to represent the year, such as "98" representing 1998, to conserve electronic storage and reduce operating cost. However, the year 2000 is indistinguishable from the year 1900 with the two-digit format. As a result of the ambiguity, computers, 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. Our primary audit objective was to determine whether the Air Force major range and test facilities are adequately preparing their information technology systems to resolve date-processing issues for the year 2000 computing problem. Specifically, the audit determined whether the Air Force major range and test facilities have complied with the DoD Year 2000 Management Plan. We did not review the management control program related to the overall audit objective because DoD recognizes the year 2000 issue as a material management control weakness area in the FY 1997 Annual Statement of Assurance.

Audit Results. The Air Force is currently assessing its business and test information systems for year 2000 compliance at eight major range and test facilities. We visited four of these ranges to determine the progress being made and the steps being taken to ensure year 2000 compliance. Because managers did not take an aggressive approach to ensure that all systems will be year 2000 compliant by December 1999, two of the four ranges were still in the awareness and assessment phases, but plan to complete the renovation phase by September 1998. One range was behind because senior level managers were not aware of the year 2000 problems. At the other range, there was a lack of guidance and oversight by managers at all levels. As a result of the belated attention to the problem, the risk that certain business and test information systems may not be year 2000 compliant by December 31, 1999 was somewhat increased. See Part I for details of the audit results.

Summary of Recommendations. We recommend that the Director, Air Force Test and Evaluation Directorate, and the Director, Air Force Operations and Training Directorate, review the status of the year 2000 problem at the major range and test facilities to determine steps that will ensure that the year 2000 schedule is met and system repair, replacement and testing are completed by December 1999.

Management Comments. The Director, Test, Systems Engineering and Evaluation, Office of the Under Secretary of Defense (Acquisition and Technology); the Director, Test and Evaluation, Headquarters United States Air Force; the Deputy Director of Operations and Training, Office of the Deputy Chief of Staff, Air and Space Operations, submitted comments on the draft. The comments from the Director, Test, Systems Engineering and Evaluation, concurred with the Air Forces response. The Director, Test and Evaluation, agreed with the recommendation and submitted updated information and a list of corrective actions. The Deputy Director of Operations and Training, Office of the Deputy Chief of Staff, Air and Space Operations, also provided additional information.

We also received unsolicited comments from the Acting Deputy Assistant Secretary of Defense (CIO Policy and Implementation) stating that the Air Force should accelerate its schedule to achieve compliance by December 1998, because those ranges and facilities may be required to test other systems for Y2K compliance. See Part I for discussion of management comments and Part III for the complete text of management comments.

Audit Response. The comments provided us with additional updated information and corrective actions that have taken place or that will take place. We consider the comments and planned actions to be responsive to our recommendation and we have updated the information in the report where necessary.

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Part I - Audit Results

Audit Background

The year 2000 (Y2K) problem is the term most often used to describe the potential failure of information technology systems to process or perform date-related functions before, on, or after the turn of the century. The Y2K problem is rooted in the way that automated information systems record and compute dates. For the past several decades, systems have typically used two digits to represent the year, such as "98" representing 1998, to conserve on electronic data storage and reduce operating costs. However, the year 2000 is indistinguishable from the year 1900 with the two-digit format. As a result of the ambiguity, computers, associated systems, and application programs that use dates to calculate, compare, and sort could generate incorrect results when working with years following 1999. Calculation of Y2K dates is further complicated because the year 2000 is a leap year, the first century leap year since 1600. The computer systems and applications must recognize February 29, 2000, as a valid date.

DoD Y2K Management Plan. The Assistant Secretary of Defense (Command, Control, Communications, and Intelligence), in his role as the DoD Chief Information Officer, issued the "DoD Year 2000 Management Plan" (DoD Management Plan) in April 1997. The DoD Management Plan provides the overall DoD strategy and guidance for inventorying, prioritizing, repairing or retiring systems, and monitoring progress. The DoD Management Plan states that the DoD Chief Information Officer has overall responsibility for overseeing the DoD solution to the Y2K problem. Each of the five phases below represents a major Y2K program activity or segment. Target completion dates range from December 1996 through March 1999.

Phase I - Awareness. Organization and planning should take place. Target completion date: December 1996.

Phase II - Assessment. Scope of Y2K impact is identified and system level analyses take place. Target completion date: June 1997

Phase III - Renovation. Required system fixes are accomplished. Target completion date: September 1998.

Phase IV- Validation. Systems are confirmed Y2K compliant through assorted testing and compliance processes. New target completion date: January 1999.

Phase V - Implementation. Systems are fully operational after being certified as Y2K compliant. New target completion date: March 1999.

The Office of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) released an updated draft DoD Management Plan in April 1998 to accelerate the completion dates for resolving the potential Y2K problem.

Air Force Strategy. The Air Force introduced a five-phase management approach, as described above, to address the Y2K problem early. The five phases were later incorporated into the DoD Management Plan and adopted by the Federal Government Chief Information Officer Council Year 2000 Subcommittee. This approach gives the Air Force the ability to achieve its goal of having every mission-critical system Y2K compliant by December 1998. The Air Force stated that each system has to be certified that it has completed one phase before it can move into the next phase. Certification training is provided by the Air Force Communications Agency. Because the Air Force does not plan to allocate any additional funds for the Y2K computing problem, managers are expected to reprogram or reprioritize previously budgeted funds

Air Force Automated Systems Inventory. The Air Force Automated Systems Inventory database is used by the Air Force for their Y2K database and is managed by the Air Force Communications Agency at Scott Air Force Base (AFB), St. Louis, Missouri. The database has information such as system description, current phase, compliant or noncompliant, and estimated cost to repair the systems. The Air Force Automated Systems Inventory is primarily used to track systems through each phase and provides status reports to the Congress, OSD, and senior Air Force officials.

Audit Objectives

Our primary audit objective was to determine whether Air Force major range and test facilities are adequately preparing their information technology systems to resolve date-processing issues for the Y2K computing problem. Specifically, the audit determined whether the Air Force major range and test facilities have complied with the DoD Management Plan. Appendix A describes audit scope and methodology.

Status of the Air Force Major Range and Test Facilities Year 2000 Program

Two of the four Air Force major range and test facilities visited are behind schedule in assessing range business and test information systems to determine the systems that need to be upgraded or replaced to ensure year 2000 compliance. This condition exists because of the lack of awareness of the Y2K problem by senior level management at one range and the lack of guidance and oversight by managers at another range. As a result, the ranges may not be Y2K compliant by December 31, 1999.

Year 2000 Program

Air Force Major Range and Test Facilities. The Air Force is currently assessing its business and test information systems for Y2K compliance at eight major range and test facilities. We visited four ranges (Arnold, Eglin, Edwards, Nellis) to determine the status of their Y2K programs. Two of the four ranges (Arnold and Eglin) have identified the systems and are on schedule to meet the Air Force's renovation phase milestone completion date of June 30, 1998. However, Edwards and Nellis are still in the awareness and assessment phases and may not meet the renovation milestone date. In addition, the ranges have identified certain systems as mission critical that may need a higher funding priority to ensure Y2K compliance. The results of our review of the four ranges follow.

Arnold AFB. The business and test information systems at Arnold AFB have been assessed, and the personnel responsible are renovating or replacing them, where necessary. The Y2K systems have also been prioritized by how critical each system is to the Arnold AFB mission, resulting in 27 unfunded Y2K systems. The estimated cost to repair or replace the unfunded systems is $1.4 million and since our audit, significant funding has been obtained. According to the Y2K points-of-contact, senior level management is very supportive and is providing the funds and resources to ensure that mission-critical systems become Y2K compliant. However, Arnold officials are concerned with the Nuclear Weapons Effect Computer System, which is not Y2K compliant and is classified as mission impaired. The primary function of the system is to provide safety during radiation testing; for example, personnel can be locked outside the chamber during radiation testing, but safeguards prevent anyone from being locked inside during testing. In addition, the Nuclear Weapons Effect Computer System is also located at other Air Force bases.

Eglin AFB. The Y2K project managers have assessed all of their business and test information systems and are on schedule for renovating or replacing them. In addition, Eglin has started to certify some of its systems so that they can move from the assessment phase to the renovation phase.

However, the link between the Preflight Integration of Munitions and Electronics System and the Guided Weapons Evaluation Facility is causing concern. The two systems interface with each other and provide a total weapon system test environment for the aircraft and munitions under test. At this time, the Preflight Integration of Munitions and Electronics System is in the renovation phase and is not Y2K compliant. The Air Force Development Test Center at Eglin AFB needs $3.3 million to renovate the Guided Weapons Evaluation Facility, which is repairing the link. According to facility officials, the Guided Weapons Evaluation Facility will have to be shut down for an undetermined period to renovate the system, which will cause a slip in the testing schedule.

Edwards AFB. The Air Force Flight Test Center, Edwards AFB, is still identifying the systems' phases. Most are behind schedule, and procurement actions have not been started for some systems that need replacing. For example, the Edwards Scheduling System, which the Air Force Flight Test Center considers to be mission impaired, is not Y2K compliant, at this time. If the Edwards Scheduling System is not Y2K compliant, manual scheduling, which has not been used since 1981, must be performed to coordinate operational flying schedules. This would be extremely difficult to prepare and to implement as a contingency plan for a Y2K failure because any code failure could result in serious degradation in flying capacity and effectiveness and include delays and cancellations. In a worst-case scenario, an undiscovered code conflict between scheduled frequencies could result in the total failure of a test mission involving multiple aircraft, costing hundreds of thousands of dollars. No contingency plan has been developed by Edwards AFB personnel to compensate for a complete, long-term failure of its scheduling system. Eight out of 15 personal computers failed the leap-year test and will be replaced. The cost to replace this system is estimated to be $1.5 million. However, the test wing has fixed the system and testing will be carried out in September 1998.

Nellis AFB. According to management comments, the thirteen range systems at the Test Warfare Center, Nellis AFB, have now been assessed and Nellis officials expected all the range systems, except one, to be fully tested by June 30, 1998. Only the microwave back-bone system will have to be tested. The test report will be completed by July 30, 1998, and actions will be taken to ensure Y2K compliance. Since the Air Combat Control team entered the systems into the Air Force Automated Systems Inventory database, 11 personnel have been certified but only one can access the Air Force Automated Systems Inventory database. The other 10 are still waiting for access privileges. As stated in the draft report, the Route Integration Instrumentation System was behind schedule and costs to fix

the problem were unknown at the time. In March 1998, modifications were presented and approved by the Range Configuration Board and range officials anticipate that the renovation to the system will be completed by June 30, 1998.

Management Awareness at the Ranges

To ensure that the Air Force major range and test facility systems are Y2K compliant, senior level management must be knowledgeable, aggressively involved, and establish direction and oversight for the Y2K managers within their commands.

Senior management at the Test Warfare Center at Nellis AFB was not aware of the Y2K seriousness; did not know that the systems were not yet in the Air Force database; and that the systems had to be certified before entering the next phase. In addition, the range did not have any personnel who had completed certification training at the Air Force Communications Agency Command. However, since our draft was issued, 11 Nellis personnel received certification training on May 21, 1998. A system must be certified as finished with one phase before it can move into the next phase. The Air Combat Command developed Tiger Teams to review the Y2K status at the Air Combat Command bases. According to Nellis officials, all Compliance Checklist documents have been filled out correctly and Nellis personnel are completing the Y2K Tracking documents for the 13 range systems.

Guidance and oversight to ensure that business and test information systems were being assessed by Y2K program managers were lacking at Edwards AFB. A lack of support for the Y2K program existed along with the problems that can occur if the systems are not Y2K compliant. Also, some personnel were recently assigned as Y2K points of contact and did not know which phase the system was in. Some Y2K program managers did not know that they had to test their systems and thought that the vendors would provide the information needed to test the system. In some cases, no certification tracking documents were filled out as required before a system can move from one phase to another and some of the tracking documents did not have the necessary contingency plans. However, since our visit, leadership has taken a more active role in the Y2K program and corrective actions have taken place or are planning to take place at Edwards AFB. See Part III for complete list of these actions.

Effects of Y2K Noncompliance

The Air Force ranges are behind the DoD schedule to achieve certified Y2K compliancy. As a result, there continues to be risk that systems and application programs that use dates to calculate, compare, and sort could generate incorrect results. The Air Force needs to ensure that the business and test information systems at all range and test facilities are inventoried, assessed, renovated or replaced, and tested to ensure Y2K compliance by December 31, 1999.

If the Air Force systems fail to recognize January 1, 2000, critical warfighting functions such as combat, communications, surveillance, and air traffic control functions could be seriously affected. Furthermore, delays in supply shipments, errors with personnel-related information, and unreliable budget estimates could occur.

Other Matters of Interest

Weapon System Testing at the Major Range and Test Facility Base. The Y2K problem is not restricted to one functional area within the DoD. Although computers deal with the business functions, they also perform, or support the performance of, our strategic and tactical operations. DoD relies heavily on computers to support weapons and weapon systems deployment. When the computer fails, the weapon or weapon system fails. The DoD major range and test facility base might be used to test weapons and weapon support systems; however, it is unclear whether the ranges would be able to test the Y2K compliance of the weapons systems if the ranges' test equipment is not Y2K compliant. The ranges need to ensure that their test facilities, including the test equipment infrastructure, are Y2K compliant, so that program managers can use the major range and test facility base.

Recommendation for Corrective Action

We recommend that the Director, Air Force Test and Evaluation Directorate, and the Director, Air Force Operations and Training Directorate, review the status of the Y2K problem at the major range and test facilities to ensure that system assessment, repair, replacement and testing are completed by December 1999.

Management Comments. The Director, Test, Systems Engineering and Evaluation, Office of the Under Secretary of Defense (Acquisition and Technology); the Director, Test and Evaluation, Headquarters United States Air Force; and the Deputy Director of Operations and Training, Office of the Deputy Chief of Staff, Air and Space Operations, submitted comments on the draft. The comments from the Director, Test, Systems Engineering and Evaluation, concurred with the Air Force's response. The Director, Headquarters United States Air Force, Test and Evaluation, agreed with the recommendation and stated that they would track the progress of the ranges and make every effort to ensure that the Air Force range and test facilities comply with the DoD Management Plan. The comments included updated information and a list of corrective actions that have taken place or that will take place in the near future. The Deputy Director of Operations and Training, Office of the Deputy Chief of Staff, Air and Space Operations, concurred with the recommendation and included updated information and corrective actions.

We also received unsolicited comments from the Acting Deputy Assistant Secretary of Defense (CIO Policy and Implementation) stating that the Air Force should accelerate its schedule to achieve compliance by December 1998, because those ranges and facilities may be required to test other systems for Y2K compliance.

Audit Response. We consider the comments to be responsive to the recommendation. We have updated the report to reflect additional information provided by the Air Force and slightly reworded the recommendation for clarity without changing its principal thrust. No further comments are required.

Part II - Additional Information

Appendix A. Audit Process

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 Y2K computing challenge. For a listing of audit projects addressing this issue, see the Y2K webpage on IGNET (http://www.ignet.gov/).

Scope and Methodology

Work Performed. We concentrated on the preparation of the Air Force major range and test facilities automated information systems to resolve the Y2K computing problem. We randomly selected four major range and test facilities to visit and reviewed the compliance of Y2K programs with the DoD Management Plan.

We reviewed and evaluated the progress of the Air Force major range and test facilities in resolving the Y2K computing issue. We evaluated the Y2K efforts of Eglin AFB, Arnold AFB, Edwards AFB, and Nellis AFB. We compared their efforts with those described in the DoD Management Plan issued by the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) in April 1997. We obtained documentation including the Air Combat Command and Air Force Materiel Command Y2K implementation plan, information on related Y2K contracts, the Air Force Y2K certification process, and various Y2K correspondence and reports. We did not review the management control program because DoD has acknowledged the Y2K computing problem as an area with material management control weaknesses and further reporting on those weaknesses would be redundant.

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. 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 warfighting capabilities. **(DoD-3)**

DoD Functional Area Reform Goals. Most major DoD functional area 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. The General Accounting Office has identified several high risk areas in the DoD. This report provides coverage of the Information Management and Technology high risk area.

Summary of Prior Coverage

The General Accounting Office and the Inspector General, DoD, have conducted multiple reviews related to Y2K issues, although none have focused specifically on Air Force major range and test facilities. 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.

Organizations and Individuals Visited or Contacted

We visited or contacted individuals and organizations within the Department of the Air Force. Further details are available on request.

Management Control Program

We did not review the self-assessment aspects of the management control program as it relates to the audit objectives because the Secretary of Defense Letter of Assurance for FY 1997 recognizes Y2K as a material management control weakness area.

Appendix B. Report Distribution

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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

Chairman and Vice-Chairman of the following congressional committee:

Senate Special Committee on the Year 2000 Technology Problem

Part III - Management Comments

Office of the Under Secretary of Defense Comments

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON, DC 20301-3000

ACQUISITION AND TECHNOLOGY

10 JUN 1998

MEMORANDUM FOR INSPECTOR GENERAL (DIRECTOR, ACQUISITION MANAGEMENT DIRECTORATE)

SUBJECT: Audit Report on Year 2000 computing problem at Air Force Major Range and Test Facilities (Project Number 8AB-3003)

We have reviewed the subject draft audit report and the Air Force comments to the report. We concur with the Air Force's response and support them in their efforts. We intend to work with the Air Force to assist them in addressing the issues and achieving Y2K compliance at the Major Range and Test Facilities (MRTFBs).

Patricia Sanders
Director, Test, Systems
Engineering and Evaluation

Department of the Air Force Comments

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE

29 JUN 1998

MEMORANDUM FOR OFFICE OF THE INSPECTOR GENERAL, DOD

FROM: HQ USAF/TE
1650 Air Force Pentagon
Washington, DC 20330-1650

SUBJECT: Audit Report on Year 2000 Computing Problem at Air Force Major Range and Test Facilities (Project No. 8AB-3003)

We appreciate the opportunity to comment on the subject audit. We take the responsibility for complying with the Year 2000 (Y2K) goals very seriously. We agree with the recommendation that the Air Force Test and Evaluation Directorate review the status of the Y2K problem at major Air Force test facilities. We will continue to work with AFCIC/ITI and HQ AFMC/SCY to track progress on these efforts. Every effort will be made to ensure that Air Force major range and test facilities comply with the DoD Management Plan.

Comments on the audit report are attached. If you have any questions, please contact Major Jay Cossentine, CossentJ@af.pentagon.mil, (703) 695-8623/DSN 225-8623.

JOHN T. MANCLARK
Director, Test and Evaluation

Attachment:
Response to Draft DoD IG Report on Year 2000
Computing Problems

cc:
AFCIC/ITI
AFMC/DO
AFMC/SCY
AEDC/CC
AFDTC/CC
AFFTC/CC

Final Report Reference

Response to Draft DoD IG Report on Year 2000 Computing Problems

DOD IG Statement:

Page 4, Air Force Major Range and Test Facilities

Revised

a. Two of the four ranges (Arnold and Eglin) have identified the systems and are on schedule to meet the renovation phase milestone completion date of September 1998.

Response:

a. Per the Air Force Materiel Command Year 2000 Program Management Plan, Version 6.0, dated 15 Jun 98: The deadline for the Renovation Phase is 30 Jun 98. This phase is dedicated to the process of modifying each system not to be terminated to make it Y2K compliant (the applications and systems are capable of correct identification, manipulation, and calculation using dates outside of the 1900-1999 year range, and proper handling of leap year in the year 2000).

DOD IG Statements:

Page 4, Arnold AFB

Revised

a. The Y2K systems have also been prioritized by how critical each system is to the Arnold AFB mission, resulting in 27 unfunded Y2K systems. The estimated cost to repair or replace the unfunded systems is $1.4 million.

Revised

b. However, Arnold officials are concerned with the Nuclear Weapons Effect Computer System, which is not Y2K compliant and is classified as mission critical. The primary function of the system is to provide safety during radiation testing; for example, personnel can be locked inside the chamber during radiation testing.

Response:

a. Since the audit, Arnold Engineering Development Center (AEDC) has continued to identify and refine Year 2000 (Y2K) operational impacts and potential solutions. Significant funding has been obtained or redirected from other purposes. Items still unfunded are being included in FY 99 job plans and budgets.

b. The Y2K impact could have the effect of erroneously locking personnel out of the chamber, but there are safeguards that prevent anyone from being locked in during radiation testing. There is no immediate threat to personnel safety from any identified Y2K impact at AEDC. The needed upgrade for the Nuclear Weapons Effect Computer System is now available on GSA schedule, and is being procured.

Final Report Reference

Per Air Force Manual 10-401, a mission critical system (Group I) means "the loss of these critical functions would cause immediate stoppage of direct mission support of wartime operations." The Nuclear Weapons Effect Computer System is categorized as **mission impaired** (Group III), which means "the loss of these functions would not have an immediate effect on direct mission support of wartime operations."

DOD IG Statements:

Page 5, **Edwards AFB**

a. For example, the Edwards Scheduling System, which the Air Force Flight Test Center considers to be mission critical, is not Y2K compliant, at this time. Revised

b. The cost to renovate this system is estimated to be $1.5 million. Revised

Response:

a. Per Air Force Manual 10-401, a mission critical system (Group I) means "the loss of these critical functions would cause immediate stoppage of direct mission support of wartime operations." The Edwards Scheduling System is categorized as **mission impaired** (Group III), which means "the loss of these functions would not have an immediate effect on direct mission support of wartime operations."

b. $1.5 million is the cost to **completely replace** the Edwards Scheduling System—not the renovation costs. The 412th Test Wing has already completed fixes on the system and has validated these repairs in-house, at a cost of approximately 2-3 man months. Testing will be carried out in September 1998.

DOD IG Statements:

Page 6, **Management Awareness at the Ranges**

a. Guidance and oversight to ensure that business and test information systems were being assessed by Y2K program managers were lacking at Edwards AFB. There was also a lack of support of the Y2K program and the problems that can occur if the systems are not Y2K compliant. Also, some personnel had just been assigned as Y2K points of contact and did not know which phase the system was in. Some Y2K program managers did not know that they had to test their systems and stated that they thought the vendors would provide the information needed to test the system. In some cases, no certification tracking documents were filled out as required before a system can move from one phase to another. In addition, some of the tracking documents did not have the necessary contingency plans. However, since our visit, leadership has taken a more active role in the Y2K program. Revised

Response:

a. The following corrective actions have taken place at the Air Force Flight Test Center (AFFTC) since the audit or are currently planned:

- Since March 1998, AFFTC senior management has taken the following steps to address the Y2K problem:

  -- Assigned full-time personnel to work Y2K, including Anthony Lattanze, GS-13, as the new Y2K Program Manager; established AFFTC Y2K Program Management Office (PMO)

  -- AFFTC Y2K PMO has been established in order to raise Y2K awareness and provide focus and direction to the Center Y2K program; the PMO reports directly to the AFFTC/CD

  -- The Air Force Automated Systems Inventory (AFASI) database has been updated to reflect accurate AFFTC status information; the Y2K PMO renders due diligence in reporting AFFTC Y2K status updates both internal and external to AFFTC

  -- Y2K Informational Briefings were conducted base-wide to introduce all AFFTC personnel, including contractors and tenant units, to the AFFTC Y2K strategy and system reporting procedures

  -- PMO views hard copies of Y2K documentation as mandatory and has documentation templates for Risk Management/Contingency Plans, Test Plans, and Program Management Plans

  -- PMO emphasizes completion of phase criteria versus Air Force target completion dates; the PMO has established realistic deadlines but will adhere to the Air Force schedule as much as possible

  -- AFFTC Y2K Program Manager sends out biweekly PMO status reports via email to provide meaningful data to senior managers with regards to the Y2K effort

  -- PMO coordinated with base contracting (AFFTC/PK) to enforce Y2K compliance on new purchases; verbal warnings will prevail until 30 Sep 98 after which contractual language will be applied

  -- PMO will provide one-on-one assistance visits to ensure system points of contact (POCs) are maintaining Y2K system folders, documentation, plans, and following current procedures

  -- PMO has two main expectations: mitigate the risk of mission failure due to the Y2K problem and substantially improve in the next Y2K inspection/audit

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE

28 JUN 1998

MEMORANDUM FOR OAIG-AUG

FROM: AF/XOO
1480 Air Force Pentagon
Washington, DC 20330-1480

SUBJECT: DoD Draft Audit, Year 2000 Computing Problem at Air Force Major Range and Test Facilities (8AB-3003)

Thank you for the informative report concerning the year 2000 (Y2K) computing problem at Air Force Major Range and Test Facilities and the opportunity to comment on the draft results. The Air Force supports the "DoD Year 2000 Management Plan" and fully understands the importance of adhering to it for successful computing solutions by March 1999. In response to your request for comments, XOO submits the attached, in a question and answer format addressing the Y2K compliance status identified at the Air Warfare Center, Nellis Air Force Base, NV.

The XOO point of contact for this action is Maj John Bernier, commercial number 703-693-0658, DSN 223-0658.

MICHAEL S. KUDLACZ, Brig Gen, USAF
Deputy Director of Operations and Training
DCS, Air and Space Operations

Attachment:
XOO Comments on Draft DoD Audit

Final Report Reference

XOO Comments on DoD Draft Audit, 8AB-3003

DOD IG Statements, Page 4, Air Force Major Range and Test Facilities:

a. Nellis is still in the awareness and assessment phases and may not meet the renovation milestone date.

b. The ranges have identified certain systems as mission critical that may need a higher funding priority to ensure Y2K compliance.

NELLIS Response:

a. The Nellis awareness and assessment phase was completed in Nov 97. We expect all range systems to be fully tested by 30 Jun 98. Of the 13 range systems, the only unresolved range system is the microwave 'back-bone' (identified as System ID AS006334 in the table below). The microwave system will be tested by 30 Jun 98 for Y2K compliance. A test report will be delivered by 30 Jul 98 and actions will be taken to ensure Y2K compliance.

b. The Range Management Office anticipates all mission critical range systems will be Y2K compliant without obtaining higher funding priorities.

DOD IG Statements, Page 5, Nellis AFB:

Revised a. Eighteen test systems were identified in March 1998 as range-owned and still have to be assessed to determine the renovations or replacements that are necessary.

Revised b. As of March 1998, these systems had not been entered into the Air Force Automated System Inventory database.

Revised c. The Route Integration Instrumentation System is behind schedule and a deficiency exists in creating mission identifications for Y2K.

Revised d. Nellis could not provide documented estimates of the cost to solve the problem.

NELLIS Response:

See attachment 1 for a listing of the 13 Nellis range systems referenced in the DoD IG Audit.

a. This is not correct. There are 13 range systems and all of these have been assessed. The other 5 systems belong to other organizations on Nellis.

b. These systems had to be entered into the referenced database by HQ ACC Y2K team personnel because no one at Nellis had access to the AFASI at the time of the IG visit. Nellis has since received certification training for 11 personnel, but only one of the

Final Report Reference

XOO Comments on DoD Draft Audit, 8AB-3003

11 can access the Air Force Automated inventory database. The Air Force Communication Agency grants access to this database and as of this date, 10 are still waiting for access privileges.

c. The Nellis RIIS assessment was completed in November 1997 and issues were identified. Systems managers and engineers have taken the necessary steps to repair and correct the problems. In March 1998, the modifications were presented and approved by the range Configuration Control Board. We anticipate the RIIS system renovation will be completed by 30 June 98.

d. At the time of the DoD IG Audit, the costs were unknown, as we were not sure what actions needed to be taken. We have since evaluated and are modifying the RIIS system. The renovation should be complete by 30 Jun 98 and accomplished within the scope of the current support contract.

DOD IG Statements, Page 6, Management Awareness at the Ranges:

a. The range did not have any personnel who had completed certification training at the Air Force Communication Agency Command. Revised

b. In some cases, no certification tracking documents were filled out as required before a system can move from one phase to the next.

NELLIS Response:

a. Eleven Nellis personnel received their training on 21 May 98.

b. There was some confusion with the Compliance Checklist and Y2K Tracking documents. All range systems Compliance Checklist documents are filled out correctly now. Nellis personnel are in the process of completing the Y2K Tracking Documents for the thirteen systems identified below.

DOD IG Statements, Page 6, Effects of Y2K Noncompliance:

a. The Air Force ranges may not meet the DoD schedule to have all systems Y2K compliant by December 31, 1999. The Air Force needs to ensure that the business and test information systems at all their range and test facilities are inventoried, assessed, and renovated or replaced to ensure Y2K compliance by December 31, 1999. Revised

NELLIS Response:

a. Range systems will be Y2K compliant by December 31, 1999. We are currently on schedule with the DoD Y2K Management Plan. Eight of the 13 range systems are already Y2K compliant and will be so documented in the Y2K Tracking

XOO Comments on DoD Draft Audit, 8AB-3003

Document (version February 9, 1998). Our range support contractor has tested the microwave backbone and problems were identified. The test report is due 30 Jul 98 and we will take corrective actions after evaluating our options.

Attachment 1

RANGE SYSTEMS IDENTIFIED FOR Y2K COMPLIANCE

SYSTEM ID	Acronym	Active	Phase	Strategy	Action Plan	Mission Criticality	Contingency Plan
AS006316	AWMDS	Y	Decommission-ed	None Req'd	Replacement Y2K compliant	III	No
AS006335	GIS	Y	Validation	None Req'd	Compliant	IV	No
AS006336	IMS	Y	Validation	None Req'd	Compliant	IV	No
AS006337	MIP	Y	Validation	None Req'd	Compliant	III	No
AS003900	NRSS Master Switch	Y	Validation	None Req'd	Compliant	III	No
AS006334	NRSS Microwave	Y	Renovation	None Req'd	Non Compliant	III	Required
AS003904	RAMS	Y	Validation	None Req'd	Compliant	III	No
AS003913	RFC2	Y	Validation	None Req'd	Compliant	III	No
AS003912	RFMDS	Y	Decommission-ed	Replace System	Replacement Y2K compliant	III	No
AS004015	RIIS/ITAS	Y	Renovation	Combin-ation	Renovate	III	No
AS006338	TOSS	Y	Validation	None Req'd	Compliant	IV	No
AS006339	VDAS	Y	Validation	None Req'd	Compliant	IV	No
2002022	RSS	N	Decommission-ed	Replace System	Replacement Y2K compliant	IV	No

Acronym List:
AWMDS – Air Warrior Measurement and Debriefing System
GIS - Geographic Information System
IMS – Information Management System
MIP – Modular Instrumentation Program
NRSS Master Switch – Nellis Range Support System
NRSS Microwave - Nellis Range Support System
RAMS - Range Airspace Management System
RFC2 – Red Flag Command and Control
RFMDS – Red Flag Mission Debriefing System
RIIS/ITAS – Route Integration Instrumentation System/Integrated Tactics Assessment System
TOSS - Television Ordinance Scoring System
VDAS – Video Data Analysis System
RSS - Range Scheduling System

Office of the Under Secretary of Defense Comments

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
6000 DEFENSE PENTAGON
WASHINGTON, DC 20301-6000

COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE

06 JUL 1998

MEMORANDUM FOR INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE

SUBJECT: Audit Report on Year 2000 Computing Problem at Air Force Major Range and Test Facilities (Project No. 8AB-3003)

We have reviewed the draft report of your audit to determine whether the Air Force is adequately preparing its information technology systems to resolve date-processing issues for the Year 2000 (Y2K) computing problem at eight major range and test facilities.

We concur with your recommendation that the Director, Air Force Test and Evaluation Directorate, and the Director, Air Force Operations and Training Directorate should review their program. However, the December 1999 target date for compliance is too late. The Air Force also should recommend measures to accelerate their schedule to achieve compliance by December 1998, particularly since these ranges and facilities may be required to test other systems for Y2K compliance.

My point of contact for this report is Ms. Sally Brown, who is assigned to the office of the Deputy Assistant Secretary of Defense for CIO Policy and Implementation, telephone number (703) 602-0967.

Marvin J. Langston
Acting Deputy Assistant Secretary of Defense
(CIO Policy & Implementation)

cc:
Assistant Secretary of the
Air Force (FM&C)
Dir., Test Systems
Engineering and Evaluation

Audit Team Members

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

Thomas F. Gimble
Patricia A. Brannin
Raymond A. Spencer
Michael E. Simpson
Barbara A. Moody
C. L. Melvin
Warren M. Brooks
Krista S. Gordon