Audit Report

YEAR 2000 COMPUTING ISSUES RELATED TO
HEALTH CARE IN DOD - PHASE II

Report No. 99-196 June 29, 1999

Office of the Inspector General
Department of Defense

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Acronyms

AIS	Automated Information System
ASD(C3I)	Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)
ASD(HA)	Assistant Secretary of Defense (Health Affairs)
FDA	Food and Drug Administration
MLC	Medical Logistics Chief
MTF	Military Treatment Facility
NMC	Naval Medical Center
RATE	Readiness Assessment Team Evaluation
Y2K	Year 2000

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

June 29, 1999

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (HEALTH AFFAIRS)

SUBJECT: Audit Report on Year 2000 Computing Issues Related to Health Care in DoD - Phase II (Report No. 99-196)

We are providing this report for information and use. This report 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 identify progress made by DoD Components who are preparing information and technology systems for year 2000 compliance. We commend your staff for the aggressive and proactive approach they are taking to resolve year 2000 issues.

This report represents the results of the second phase of this project. The first phase addressed year 2000 issues involving health care information systems, biomedical devices, and facility devices. We welcome suggestions from management regarding any other issues on which we should focus future phases of the audit.

Comments from the Military Health System Chief Information Officer on a draft of this report were considered in preparing the final report. The Chief Information Officer concurred with the recommendations and the comments conformed to the requirements of DoD Directive 7650.3; therefore, no additional comments are required.

We appreciate the courtesies extended to the audit staff. For additional information on this report, please contact Mr. Michael A. Joseph at (757) 766-9108 (mjoseph@dodig.osd.mil) or Mr. Sanford W. Tomlin at (757) 766-3265 (stomlin@dodig.osd.mil). See Appendix C 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. 99-196 June 29, 1999
(Project No. 8LF-5013.01)

Year 2000 Computing Issues Related to Health Care in DoD - Phase II

Executive Summary

Introduction. This report is one of a series 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 complete listing of audit projects addressing the year 2000 issue, see the year 2000 web pages on the IGnet at http://www.ignet.gov. This report is the second in a series that began with Inspector General, DoD, Report No. 99-055, "Year 2000 Computing Issues Related to Health Care in DoD," December 15, 1998, which discussed year 2000 issues involving health care information systems, biomedical devices, and facility devices.

Objectives. The overall audit objective was to determine whether planning and management are adequate to ensure that mission-critical health systems will continue to operate properly in the year 2000. This report follows up on the issues and recommendations raised in the first report of this series, Report No. 99-055, and further evaluates biomedical devices.

Results. The Office of the Assistant Secretary of Defense (Health Affairs) and the Military Departments continued making progress in identifying and correcting year 2000 problems in Military Health System automated information systems, biomedical devices, and facility devices. Corrective actions were taken or scheduled to implement all eight agreed-upon recommendations from Report No. 99-055 (see Appendix B). Efforts to work jointly with major civilian health care organizations to validate the basis for year 2000 compliance determinations by manufacturers are especially commendable. However, further actions by the Office of the Assistant Secretary of Defense (Health Affairs) are needed. Specifically, actions in the biomedical device area should include increasing oversight of noncompliant biomedical devices by including contingency plan requirements in monthly reports and by expediting the implementation of Year 2000 Readiness Assessment Team Evaluations. Actions should also include establishing a deadline for removal of noncompliant devices and improving the reporting of compliant biomedical devices by disclosing varying methodologies of data collection. In addition, based on audit work at two Navy medical centers, the accuracy of Navy noncompliant biomedical device reports needed improvement. Actions are necessary to minimize the risk that DoD will not realize full health care and medical readiness capabilities in the year 2000 and beyond. The audit results are detailed in the Finding section.

Summary of Recommendations. We recommend that the Assistant Secretary of Defense (Health Affairs) increase noncompliant biomedical device oversight by expanding monthly reporting requirements to include whether contingency plans exist and by expediting Year 2000 Readiness Assessment Team Evaluations. We also recommend that the Assistant Secretary of Defense (Health Affairs) establish a deadline for removal of noncompliant devices, improve the reporting of compliant biomedical devices by disclosing varying methodologies of data collection, and increase the accuracy of Navy noncompliant biomedical device reports to senior management.

Management Comments. The Military Health System Chief Information Officer concurred with the finding and recommendations. The Chief Information Officer stated that his staff worked closely with the audit staff to initiate corrective actions as issues were identified. Procedures were established to increase oversight of noncompliant biomedical devices by expanding monthly reporting requirements to include an indication of the existence of a contingency plan for each device listed. Although each Military Department will include varying levels of Assistant Secretary of Defense (Health Affairs) readiness assessment team participation, oversight will be increased as results of independent assessments are provided to senior management. A deadline prior to January 1, 2000, will be established for the removal of noncompliant biomedical devices, based on the status of remediation efforts and consideration of risk to patient care due to the removal of functioning equipment in advance of its known date of failure. The accuracy of Navy noncompliant biomedical device reports will be improved through the creation of a centralized web-enabled database that will be updated by military treatment facility personnel. The presentation of compliant biomedical devices will be improved by providing briefing material that specifically discloses the differences in Military Department data collection methodologies. See the Finding section for a discussion of management comments and the Management Comments section for the complete text of the comments.

Audit Response. The Chief Information Officer's comments were fully responsive and no additional comments are required. Because the Office of the Inspector General is no longer being asked to participate on the readiness assessment teams, and it appears that the role of the Office of the Assistant Secretary of Defense (Health Affairs) may also be limited, we will selectively review the independent assessments in future phases of this project. Throughout the audit we worked closely with the staff in the Office of the Assistant Secretary of Defense (Health Affairs), which aggressively searched to identify year 2000 problems and solutions, and initiated many actions to correct the problems. We commend the staff's aggressive and proactive approach to resolving year 2000 issues.

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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. 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, 2000 is indistinguishable from 1900. As a result of the ambiguity, computers, associated systems, and application programs that use dates to calculate, compare, or sort could generate incorrect results when working with years after 1999.

DoD Y2K Management Strategy. The DoD Chief Information Officer has the overall responsibility for overseeing the DoD solution to the Y2K problem. In his role as the DoD Chief Information Officer, the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) (ASD[C3I]) issued the initial "DoD Year 2000 Management Plan" (the DoD Management Plan) in April 1997. The DoD Management Plan is a living document and has had numerous revisions. The DoD Management Plan required DoD Components to implement a five-phase (awareness, assessment, renovation, validation, and implementation) Y2K management process. The most recent DoD Management Plan (December 1998) required completion of the implementation phase for mission-critical systems by December 31, 1998, and for nonmission-critical systems by March 31, 1999. Continued use of non-compliant nonmission-critical embedded chip devices, including biomedical and facility devices, is permitted beyond March 31, 1999, if military treatment facilities (MTFs) are willing to accept the vulnerability of using those devices based on the associated mission risk.

Y2K Responsibilities for Health Care Systems. Y2K issues in DoD health care include automated information systems (AISs), biomedical devices, and facility devices. The Assistant Secretary of Defense (Health Affairs) (ASD[HA]) is responsible for providing oversight of medical AIS Y2K compliance and issued a Military Health System Y2K Management Plan based on the DoD Management Plan. Individual AIS project managers, many from the Military Departments, have the specific responsibility for correcting Y2K-noncompliant AISs. ASD(HA) prepares and provides the quarterly Y2K status reports to ASD(C3I) on medical AISs and biomedical devices. The Military Departments are responsible for correcting potential Y2K problems in biomedical devices and facility devices and for reporting the Y2K status of facility devices to ASD(C3I). Office of Management and Budget Memorandum M-99-12, "Assuring the Year 2000 Readiness of High Impact Federal Programs," March 26, 1999, identified 21 high impact Federal programs. Military hospitals were designated as one of the high impact programs, and DoD was designated the lead agency for the program. As the lead agency for addressing the Y2K problem, DoD is required to take a leadership role to coordinate all partners that participate in the military hospital high impact program. Partners include other Federal agencies; State, tribal, and local governments; and contractors. The following paragraphs provide details on AISs and biomedical and facility devices.

AISs. The Office of the ASD(HA) maintains a database of all AISs being tracked for Y2K compliance purposes. The database is used to prepare quarterly reports for ASD(C3I) and to monitor AIS Y2K status. As of March 31, 1999, the database showed all 12 mission-critical AISs had completed the implementation phase. The Defense Blood Standard System completed the implementation phase in February 1999; implementation of the other 11 systems was completed by December 31, 1998. The database also showed 60 of the 75 nonmission-critical AISs had completed the implementation phase by March 31, 1999, as required. Of the remaining 15 nonmission-critical AISs, 5 will be removed from service before the year 2000 and 10 are scheduled to complete the implementation phase by July 30, 1999. The ASD(HA) December 1998 quarterly report to ASD(C3I) showed an estimated cost of about $130 million to successfully complete its Y2K program for mission- and nonmission-critical AISs and nonmission-critical biomedical devices.

Biomedical Devices. The DoD Management Plan reduced the five-phase management strategy to three phases (inventory, assessment, and implementation) for biomedical devices, facility devices, and other embedded chip applications. Potential Y2K sensitivity is a concern related to the embedded chips in any device that includes a microchip or microprocessor. ASD(HA) categorized all biomedical devices as nonmission critical. Table 1 shows the status of 5,340 noncompliant biomedical devices that did not meet the March 31, 1999, implementation deadline. ASD(HA) requires monthly reporting on the status of noncompliant devices in use beyond March 31, 1999.

Table 1. Noncompliant Biomedical Devices
(as of March 31, 1999)

Status	Army	Navy	Air Force	Total
Pending	10	54	175	239
Repair	1,592	1,485	1,093	4,170
Replace	300	100	278	678
Remove	96	67	90	253
Total	**1,998**	**1,706**	**1,636**	**5,340**

In the fall of 1997, the Biomedical Equipment Subcommittee of the Chief Information Officers Council's Year 2000 Committee directed the Department of Health and Human Services to establish a web site to assist Federal and private health care providers with determining the Y2K compliance of their biomedical devices. The Department of Health and Human Services subsequently developed a web site accessible through the Food and Drug Administration (FDA) web site.

Facility Devices. Facility devices are the basic support and operational equipment (for example, elevators; heating, ventilation, and air conditioning systems; intrusion detection systems; and sprinkler systems) used in the building infrastructure of hospitals and clinics. The Y2K status of DoD medical facility devices is determined and reported in conjunction with the host installation through the Military Department chain of command.

Objectives

The overall audit objective was to determine whether planning and management are adequate to ensure that mission-critical health systems will continue to operate properly in the year 2000. This report follows up on the issues and recommendations raised in the first report of this series and further evaluates biomedical devices. See Appendix A for a discussion of the audit scope and methodology and for a summary of prior coverage.

Status of Year 2000 Issues in DoD Health Care

ASD(HA) continued making progress in identifying and correcting Y2K problems. However, ASD(HA) can make further improvements by:

- increasing oversight of noncompliant biomedical devices by expanding monthly status report requirements to include whether contingency plans exist for each device and by expediting the implementation of Y2K Readiness Assessment Team Evaluations (RATEs),
- establishing a deadline for the removal of noncompliant biomedical devices from service before the year 2000,
- improving the reporting of compliant biomedical devices by disclosing varying methodologies of data collection, and
- increasing the accuracy of Navy noncompliant biomedical device reports to senior management.

Such actions are necessary to minimize risk that DoD will not realize full health care and medical readiness capabilities in 2000 and beyond.

Positive Actions Addressing Y2K Problems

Timely Reaction to Previous Audit Recommendations. ASD(HA) and the Military Departments had taken many positive actions to identify and correct Y2K problems in the Military Health System AISs, biomedical devices, and facility devices that we identified in the first report of this series. Our previous report, Inspector General, DoD, Report No. 99-055, "Year 2000 Computing Issues Related to Health Care in DoD," December 15, 1998, contained eight recommendations. Six of the eight recommendations dealt with actions related to the Y2K effort for AISs. We recommended that ASD(HA) establish procedures to ensure slippage in AIS completion dates are promptly reported to the ASD(HA) Y2K project office, prepare interface agreements in accordance with the DoD Management Plan, and prepare contingency plans for AISs that are 2 or more months behind the required completion dates. In addition, we recommended that ASD(HA) monitor the combination of functionality upgrades with Y2K upgrades; test products purchased under contracts without Y2K clauses for Y2K compliance; and include the Y2K clause in all delivery orders under the Defense Medical Information System/Systems Integration, Design, Development, Operations, and Maintenance Services Program contract. We also recommended that ASD(HA) perform sample tests for Y2K compliance of biomedical devices and direct the Military Department Surgeons General to require that MTF commanders coordinate the Y2K effort for medical facility devices with installation commanders.

Our followup review showed that ASD(HA) had taken or planned action in a timely manner to meet the intent of each recommendation. Details concerning each recommendation and associated management actions are discussed in Appendix B.

Positive Actions on Biomedical Device Y2K Compliance. In addition to the actions taken in response to the prior audit report, the Office of the ASD(HA) and the Military Departments took positive actions to ensure that DoD biomedical device information is consistent with other Federal agencies and available to the civilian sector. In addition, DoD is working jointly with major civilian health care organizations to validate the basis for manufacturer Y2K compliance determinations.

Manufacturer Responses Consistent with Other Sources. Biomedical device Y2K compliance data gathered by DoD was consistent with information on the FDA, manufacturer, and the National Institutes of Health web sites. In the spring of 1997, the Military Departments formed a tri-service process action team to query biomedical device manufacturers concerning the Y2K compliance of their devices. Each Military Department maintained the manufacturer responses in a different manner. The Army maintained an automated spreadsheet of all the manufacturer responses and as of November 9, 1998, 98 percent of the manufacturers queried had responded. The spreadsheet showed the Y2K status for 2,354 biomedical devices made by 144 manufacturers. A comparison of the compliance information, as shown in the Army spreadsheet, with the FDA, manufacturer, and the National Institutes of Health web sites disclosed no differences.

Because the Navy and the Air Force did not have a consolidated list of manufacturer responses, we reviewed the compliance information for biomedical devices at one Navy and one Air Force MTF. Both MTFs had a database showing the Y2K compliance status for biomedical devices in their inventory. We compared the compliance information for their biomedical devices with what was shown in the Army database and with the FDA, manufacturer, and the National Institutes of Health web sites and did not find any disagreements.

Discussions with the MTFs disclosed the tri-service process action team Y2K information was a good starting point for determining biomedical device compliance. However, direct contact between the MTF and the manufacturer was required to determine the Y2K status for many devices. Because of variations within equipment models, additional information such as serial numbers or dates of purchase were necessary to determine the Y2K status.

Sharing Manufacturer Responses. The process action team shared manufacturer responses with the FDA and the Department of Veterans Affairs. In November 1998, copies of all the manufacturer responses were given to the FDA. The FDA used the DoD responses as a validation of manufacturer information already available on the FDA web site. In addition, DoD manufacturer responses included Y2K information for 24 manufacturers that were not previously listed on the FDA web site. As of April 12, 1999, the FDA had completed posting to its web site the DoD information for 21 of the 24

manufacturers. Although late in the Y2K cycle, the sharing of information was significant because the civilian sector relies on the FDA to be a central source of Y2K compliance information about biomedical devices.

Manufacturer Y2K Validation Testing. The tri-service process action team was actively participating in a working group, composed of major civilian health care organizations and other Government agencies, that is evaluating the basis for manufacturer Y2K compliance determinations. Because of the proprietary nature of the embedded chips, and limited ability to test the devices, hospitals are relying primarily on manufacturer determinations of Y2K compliance. Participants in the working group, with contractor assistance, will visit different biomedical device manufacturers and evaluate support for Y2K compliance statements. The site visits will include reviewing manufacturer test plans and test results and evaluating the effectiveness of proposed upgrades and work arounds. As of February 1999, the tri-service process action team was negotiating with the contractor the start date and specific manufacturer sites to be visited. The group approach to reviewing manufacturer compliance determinations is an effective and cost-efficient method of evaluating manufacturer Y2K validation testing.

Additional Actions Needed

Although the DoD health care community had made good progress in preparing for the year 2000, further improvement can be achieved. Specifically, action is needed to increase oversight of noncompliant biomedical devices by including contingency plan requirements in monthly reports and by expediting the implementation of RATEs. Actions should include establishing a deadline for removal of noncompliant biomedical devices and improving the reporting of compliant biomedical devices by disclosing varying methodologies of data collection. In addition, based on audit work at two Navy medical centers, the accuracy of Navy noncompliant biomedical device reports needed improvement.

Oversight of Noncompliant Biomedical Devices. Although much of the management responsibility for Y2K efforts related to biomedical devices has been decentralized, we believe it is critical that oversight of devices still non-compliant after March 31, 1999, be centralized. The additional centralized oversight can be facilitated by requiring detailed status reports to ASD(HA) and by expediting and expanding the role of planned RATEs.

Detailed Status Reports to ASD(HA). The DoD Management Plan deadline for the implementation phase for all nonmission-critical devices was March 31, 1999. Corrective actions for completing the implementation phase consist of fixing, replacing, or accepting vulnerability of items (based on mission risk). Realizing that a fix or replacement for all noncompliant biomedical devices would not be available by March 31, 1999, the Principal Deputy ASD(HA) issued a memorandum dated December 7, 1998, that provided the Military Department Surgeons General with procedures for obtaining waivers for noncompliant devices still in use. The procedures required the Military Departments to report, by MTF, each noncompliant

biomedical device that would remain in use after March 31, 1999. Reports were to be provided monthly until none of the devices remained in service. In addition, the Military Departments were to report the date each biomedical device would be repaired, replaced, or removed. Subsequently, ASD(C3I) directed ASD(HA) not to issue waivers for continued use of noncompliant devices. Although ASD(HA) will no longer be issuing waivers, ASD(HA) issued new guidance on March 26, 1999, requiring monthly reporting of the same information as in the December 7, 1998, memorandum. In addition to the information required in the March 26, 1999, memorandum, we believe MTFs should also report whether contingency plans exist for noncompliant biomedical devices. Contingency plans could be especially important for those devices if manufacturers fail to provide the fixes on schedule.

RATEs. ASD(HA) was establishing a standard team approach for evaluating Y2K readiness of the individual MTFs, called RATE. The RATE could be an excellent oversight mechanism but, to be of maximum benefit, its implementation needs to be expedited and its role expanded to include validation of information included in monthly reports for noncompliant biomedical devices. ASD(HA) intended to form teams of Government and contractor personnel to visit MTFs and perform RATEs. ASD(HA) issued a draft concept of operations dated March 15, 1999, that proposes specific areas for review at each MTF. The concept of operations includes a detailed checklist that review teams will follow to assess the overall management of the Y2K readiness effort. The checklist covers AISs, biomedical devices, facility devices, interface agreements, and operational contingency plans. In the biomedical device area, the draft concept of operations proposes that RATEs include a review of corrective actions planned for noncompliant biomedical devices in use after March 31, 1999. The reviews should determine whether the MTFs have adequately planned to repair, replace, or remove the device from service; the dates corrective actions will be implemented; whether adequate funding is available for the planned corrective actions; and alternative actions if planned corrective actions prove not executable.

We applaud the ASD(HA) efforts to increase oversight of noncompliant biomedical devices. We believe expanding the reporting process for non-compliant biomedical devices and implementing on-site RATEs would provide the oversight needed. However, the RATE concept is in the draft phase and, therefore, subject to change. Given the limited time remaining to correct Y2K problems, we believe those actions need to be expedited. Until now, the oversight of biomedical devices has been decentralized. Now that the required DoD milestones have passed, we believe that centralized oversight at the ASD(HA) level is warranted to provide the assurances needed to address noncompliant biomedical devices before the year 2000.

Deadline for Removal of Noncompliant Devices. A deadline for removal of noncompliant equipment needs to be established. MTFs did not plan to repair all noncompliant biomedical devices in use after March 31, 1999. According to the Office of the ASD(HA), no noncompliant biomedical devices were identified that will be in operation after December 31, 1999. ASD(HA) plans to remove from service those noncompliant items that will not be repaired. Because the impact on MTF capability of removing those devices is unknown, MTFs should not wait until December 31, 1999, to remove them from service. In addition, to

reduce the risk associated with using a noncompliant device in the year 2000, a deadline (possibly October or November 1999) needs to be established for removing all noncompliant biomedical devices from service. Failure to remove those devices from service in a timely manner could pose a risk to patients. ASD(HA), in coordination with the Military Department Surgeons General, should consider establishing a deadline earlier than December 1999 for removing noncompliant biomedical devices from service.

Reporting of Compliant Biomedical Devices. Varying methodologies of data collection for compliant biomedical devices may be misleading to senior DoD managers responsible for overseeing the resolution of the Y2K problem. For example, ASD(HA) quarterly reports to ASD(C3I) included DoD total numbers of compliant and noncompliant biomedical devices. An indication of the varying data collection methodologies for reporting compliant biomedical devices becomes evident when the number of compliant biomedical devices is broken out by Military Department, as reported monthly by the medical logistics chiefs (MLCs) and as shown in Table 2.

Table 2. Compliant Biomedical Devices as of March 31, 1999
(in thousands)

Military Department	Compliant Devices
Army	120.6
Navy	14.1
Air Force	212.9
Total	**347.6**

Although the Army and the Air Force appear to have many more compliant biomedical devices than the Navy, discussions with medical logistics personnel from each Military Department disclosed that the differences are primarily attributable to using different criteria for reporting compliant devices. The Army included all items identified in the Army Medical Department Property Accounting System with a unit cost over $2,500. The Air Force included all items requiring maintenance identified in the Medical Logistics System regardless of unit cost, including such items as beds, overhead projectors, and stretchers. Conversely, the Navy reported only those devices that were believed to be date or time sensitive and that used embedded electronic components. Management could be misled if such differences are not disclosed. By including items that are not date sensitive, all of which are deemed compliant, management may be presented a scenario that is better than reality. We realize that management is most concerned with the noncompliant devices, and that varying data collection methodologies do not necessarily mean that MTFs have not taken appropriate corrective actions for biomedical devices. However, if such data is to be used in future management reports, ASD(HA) should ensure that summary status reports on compliant biomedical devices fully disclose the varying data collection methodologies.

Accuracy of Navy Noncompliant Biomedical Device Reports. The Navy portions of biomedical device status reports, reviewed during the audit, were based on inaccurate data. Each month, the MLC for each Military Department reports the number of noncompliant devices to ASD(HA). Table 1 in the Background of this report shows noncompliant biomedical devices reported by the MLCs as of March 31, 1999. Army and Air Force MTFs provide monthly biomedical device Y2K status to the MLCs for reporting to senior management.

A visit to one Army and one Air Force MTF disclosed that noncompliant biomedical devices were correctly reported to the MLCs. However, the Navy MLC maintained a centralized database of biomedical devices at each MTF independent of the database maintained by the Navy MTFs, and used that centralized inventory for reporting to senior management. The centralized database was updated without monthly input from the MTFs.

The Navy MLC developed the database using the Property Management and Budgeting System containing all accountable property at the MTFs. The Navy MLC then removed all property from the database except for those biomedical devices believed to be Y2K sensitive and recorded the Y2K compliance status for each biomedical device. In July 1998, the Navy MLC provided the resulting database to the MTFs for review and comment and revised the database accordingly. Each Navy MTF maintains a list of noncompliant biomedical devices in their own Biomedical and Facilities System databases.

We compared the Navy MLC database with the inventory of noncompliant devices at two Naval Medical Centers (NMCs). The Navy MLC list of noncompliant biomedical devices did not agree with the NMC lists. We compared the noncompliant inventory in the Navy MLC database with the noncompliant inventory shown in the Biomedical and Facilities System databases at the National NMC Bethesda, Maryland, and NMC Portsmouth, Virginia, and found significant differences. Although the Navy MLC included more biomedical devices, it did not list all of the items shown by the NMCs. We could not reconcile 81 (32 percent) of the 251 devices shown in the National NMC noncompliant inventory. We could not reconcile 21 (40 percent) of the 52 devices shown in the NMC Portsmouth noncompliant inventory. Those differences appear to be attributable to the use of different databases and a failure to reconcile differences between the databases.

Discussions with personnel from the Navy MLC and the NMCs revealed that there had not been a comparison of the two inventories since July 1998, when the initial information for the MLC database was sent to the MTFs. Although Navy guidance requires that the MTFs notify the Navy MLC of completed and pending Y2K actions, that had not been done. Subsequent to our discussions, the Navy MLC issued a data call on biomedical devices to the MTFs and used data received to update reports to ASD(HA) of noncompliant biomedical devices. Table 1 reflects the updated status based on the data call. Due to time constraints, we did not evaluate the accuracy of the data call. The Navy was creating a web-enabled repository of biomedical device information (see Management Comments), and we will evaluate its accuracy during subsequent audits of DoD Y2K health care issues.

Senior management relied on the briefings and reports that summarized progress at the MTF level to assess the Y2K status of DoD health care. Because briefings and reports of compliant and noncompliant biomedical devices will continue to be provided to senior management, we believe that the data should be consistent and accurate. If that is not practical, as a minimum, the different methods used to compile the statistics should be disclosed in all briefings and reports.

Conclusion

Throughout the Y2K process, the responsibility for determining and correcting noncompliant biomedical devices was decentralized down to the MTF. Given the sheer number of devices owned by DoD, that was a reasonable approach. However, additional measures are needed to validate and improve the quality of information being reported on MTF Y2K readiness and to intensify management of noncompliant devices.

Management Actions During the Audit

Throughout the audit we worked closely with the ASD(HA) staff responsible for Y2K compliance. As we identified Y2K problems, we notified the ASD(HA) staff and they initiated actions to correct the problems. The Management Comments section includes a memorandum from the Principal Deputy ASD(HA) that highlights actions initiated during the audit. Those actions included:

- expediting the implementation of RATEs,
- monitoring monthly reports to determine a deadline for removing noncompliant biomedical devices,
- ensuring reports disclose varying methodologies used to collect data on compliant biomedical devices, and
- creating a web-enabled repository for Navy biomedical device information.

We commend the quick response to the issues identified. However, we believe further action is needed to increase ASD(HA) oversight by ensuring that contingency plans are included in monthly reports of noncompliant biomedical devices. We plan to evaluate the effectiveness of such actions during subsequent audits on Y2K issues in DoD health care.

Recommendations, Management Comments, and Audit Response

We recommend that the Assistant Secretary of Defense (Health Affairs):

1. Increase oversight of noncompliant biomedical devices by:

a. Expanding monthly status reporting to include whether contingency plans exist for each device.

Management Comments. The Military Health System Chief Information Officer concurred, stating that monthly reporting requirements and procedures put in place in December 1998 would be expanded to include an indication of the existence of a contingency plan for each noncompliant biomedical device listed.

b. Expediting the implementation of Year 2000 Readiness Assessment Team Evaluations.

Management Comments. The Military Health System Chief Information Officer concurred, stating that each Military Department would conduct independent assessments and assistance visits to their respective military treatment facilities that best match the existing programs and practices of each Military Department. Each Military Department will employ varying levels of ASD(HA) readiness assessment team participation. The Army will use full team participation, the Navy will combine internal evaluation teams with ASD(HA) participation, and the Air Force will rely entirely on internal evaluation teams. In all cases, lessons learned and best practices from visits will be shared with military treatment facilities, across the Military Departments.

Audit Response. Management comments were responsive. However, the early concept of the RATE process had ASD(HA) as the lead activity. In addition, ASD(HA) considered including the Office of the Inspector General on the team. However, the comments indicate the Office of the Inspector General is no longer being asked to participate, and it appears that the role of the Office of the ASD(HA) may be limited. As a result, we will selectively review the independent assessments in future phases of this project.

2. Establish a deadline that would provide sufficient time for the removal of noncompliant biomedical devices from service before 2000.

Management Comments. The Military Health System Chief Information Officer concurred, stating that all noncompliant biomedical devices will be removed from service before January 1, 2000. Establishing a deadline for removing the devices prior to the year 2000 will be based on the status of remediation efforts as the year 2000 approaches and will consider the risk to patient care due to the removal of functioning equipment before its known date of failure.

3. Improve the reporting of compliant biomedical devices by disclosing varying methodologies of data collection used.

Management Comments. The Military Health System Chief Information Officer concurred, stating that ASD(HA) is providing briefing material that specifically discloses the differences in Military Department methodologies of data collection for biomedical devices.

4. Increase the accuracy of Navy noncompliant biomedical device reports to senior management by reconciling the medical logistics chief and military treatment facility databases.

Management Comments. The Military Health System Chief Information Officer concurred, stating that the Navy established a web-enabled database on May 22, 1999, to centralize Navy biomedical device information. Navy MTF personnel are responsible for updating the database on a real-time basis. The database will eliminate the discrepancies in local and central Navy information and will serve as the basis of information presented to senior management.

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 web pages on the IGnet at http://www.ignet.gov.

Scope and Methodology

Work Performed. We followed up on recommendations in Inspector General, DoD, Report No. 99-055. We reviewed AIS contracts and delivery orders issued between the prior report date and March 5, 1999, to determine whether the appropriate Y2K language was included. We determined the status of AIS interface agreements and contingency plans as of March 31, 1999, and evaluated ASD(HA) procedures to correct all deficiencies.

In addition to the followup work on the prior report, we reviewed the progress that the DoD health care community made in resolving Y2K computing issues with biomedical devices. We interviewed personnel from the Office of the ASD(HA), Office of the ASD(C3I), Military Department MLCs, and MTF medical maintenance departments. We analyzed medical equipment status reports on Y2K compliance dated from February 1998 through March 1999. We compared compliance information for biomedical devices listed in a spreadsheet from an Army database with manufacturer compliance information found on the FDA, manufacturer, and the National Institutes of Health web sites. We performed the same comparison for one Navy and one Air Force MTF. We compared the inventories of noncompliant biomedical devices in two NMC databases with the noncompliant devices listed in the Navy MLC database. We visited one Army and one Air Force MTF to evaluate the reporting of noncompliant devices to their respective MLCs.

Limitations to Audit Scope. We did not test Y2K compliance of biomedical devices. Also, our review of biomedical device databases was limited to a comparison of management reports based on the databases. We did not verify the accuracy of the databases or reconcile the database to the actual property inventory. Our review was limited to following up on prior recommendations and the Y2K management process associated with biomedical devices.

DoD-Wide Corporate-Level Goals. In response to the Government Performance and Results Act, DoD 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 objectives and goals in the Information Technology Management Functional Area.

- **Objective:** Become a mission partner. **Goal:** Serve mission information users as customers. **(ITM-1.2)**
- **Objective:** Provide services that satisfy customer information needs. **Goal:** Modernize and integrate Defense information infrastructure. **(ITM-2.2)**
- **Objective:** Provide services that satisfy customer information needs. **Goal:** Upgrade technology base. **(ITM-2.3)**

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 the overall Information Management and Technology high-risk area.

Use of Computer-Processed Data. We compared computer-processed data shown in an Army spreadsheet with information on the FDA, manufacturer, and the National Institutes of Health web sites. We also compared a database of biomedical devices maintained by the Navy MLC with the Biomedical and Facilities System databases maintained at two NMCs. Although a formal reliability assessment was not performed, we determined the data shown in the Army spreadsheet and information on the FDA, manufacturer, and the National Institutes of Health web sites were in agreement. However, data shown in the Navy MLC and the NMC Biomedical and Facilities System databases were not in agreement; this report discusses the differences that need to be resolved.

Audit Type, Dates, and Standards. We performed this program audit from November 1998 through April 1999 in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD.

Contacts During the Audit. We visited or contacted individuals and organizations within DoD and the Department of Health and Human Services. 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 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 accessed over the Internet at http://www.gao.gov. Inspector General, DoD, reports, including Report No. 99-055, can be accessed over the Internet at http://www.dodig.osd.mil. The Army Audit Agency issued a summary report that consolidates multiple installation-level Y2K audits. The Naval Audit Service and the Air Force Audit Agency each issued one Y2K report that addresses medical issues.

Army

Army Audit Agency, Report No. AA 99-69, "Medical Facility Year 2000 Action Plans," December 9, 1998.

Navy

Naval Audit Service, Memorandum: "Review of Year 2000 (Y2K) Processing Problem in the Department of the Navy," Bureau of Medicine and Surgery, December 23, 1998.

Air Force

Air Force Audit Agency, Briefing Report, "Continuity of Mission and Support Functions for the Year 2000 Program," October 9, 1998.

Appendix B. Followup on Previous Audit Recommendations

Inspector General, DoD, Report No. 99-055 recommended that ASD(HA) take actions to ensure that DoD realizes full health care and medical readiness capabilities in 2000 and beyond. The Principal Deputy ASD(HA) agreed with the recommendations and provided a list of corrective actions taken or planned. Our followup review showed that ASD(HA) had taken or planned action in a timely manner to meet the intent of each recommendation. Details concerning each recommendation and associated management action are discussed below.

Report Slippage. We recommended that ASD(HA) establish procedures requiring AIS project managers to promptly report slippage in AIS completion dates to the Y2K project office. ASD(HA) implemented procedures that required AIS project managers add Y2K status information to an existing automated project management tool used to track time frames on AIS development and upgrades. We found that, when using the automated project tool, the AIS project managers are supposed to update the Y2K status for each AIS project every 2 weeks. If the project managers do not provide an update, the automatic project management tool extends the project's completion date by 2 weeks. Prior to the procedural change, many project managers did not provide Y2K status updates and project slippage was not obvious to the Y2K project office. With the change, project managers have an incentive to provide timely updates or their projects will be automatically shown as slipping.

Interface Agreements. We recommended that ASD(HA) prepare interface agreements in accordance with the DoD Management Plan. ASD(HA) required AIS project managers to complete the interface agreements and to update existing interface agreements so they were in accordance with the DoD Management Plan. ASD(HA) completed all interface agreements in accordance with the guidance provided in the DoD Management Plan.

AIS Contingency Plans. We recommended that ASD(HA) prepare contingency plans for all AISs that were 2 or more months behind the required completion dates, in accordance with the DoD Management Plan. We also recommended that ASD(HA) ensure that the completed contingency plans comply with DoD and General Accounting Office guidelines. ASD(HA) required contingency plans for all mission-critical systems and any AIS 2 or more months behind the completion dates contained in the DoD Management Plan. ASD(HA) also established a compliance assurance team that reviewed each contingency plan to ensure it was in accordance with DoD and General Accounting Office guidelines. We reviewed contingency plans for all 12 mission-critical AISs, 2 nonmission-critical AISs that Report No. 99-055 identified as having deficiencies, and 3 other nonmission-critical AISs that ASD(HA) had forecast would be 2 or more months behind the DoD completion date of March 31, 1999.

Contingency plans were completed for the 17 AISs. However, contingency plans for 6 of the 17 AISs did not include some of the required elements. The compliance assurance team had identified the same deficiencies and continued to

work with the AIS project managers to include all required elements in the contingency plans. ASD(HA) corrected all contingency plan deficiencies by March 29, 1999. ASD(HA) also planned to put all contingency plans on its web site, which will allow MTFs to use the system contingency plans in developing their operational contingency plans.

Combined Y2K Fixes and Functionality Upgrades. We recommended that ASD(HA) monitor the AISs in which Y2K fixes were combined with other functionality upgrades. In response to the recommendation, ASD(HA) accelerated projects that were slipping to meet the completion dates contained in the DoD Management Plan. Our followup review showed that ASD(HA) subsequently met the DoD mandated timelines for 11 of the 12 mission-critical AISs. Implementation of the remaining mission-critical AIS was completed by February 19, 1999. Additionally, Y2K fixes were developed for all nonmission-critical AISs and ASD(HA) was in the process of implementing the fixes at the sites that use the AISs. Site implementation might not have been completed for all nonmission-critical systems by March 31, 1999.

Products From Pre-Y2K Contracts. We recommended that ASD(HA) determine where the AIS products that were purchased under the Support Hardware and Automated Related Products' Generic Program and Defense Medical Information System/Systems Integration, Design, Development, Operations, and Maintenance Services Program contracts were being used with mission-critical systems and perform appropriate Y2K testing. ASD(HA) performed comprehensive reviews to determine Y2K compliance of all software and hardware products for mission-critical systems.

Delivery Orders. We recommended that ASD(HA) include the Y2K clause in all delivery orders under the Defense Medical Information System/Systems Integration, Design, Development, Operations, and Maintenance Services Program contract. ASD(HA) stated that the contract had been replaced with a new contract and delivery orders would only be placed under the new contract, which contained the Y2K clause. ASD(HA) had transitioned to the new contract for most of the delivery orders. Only two delivery orders were issued under the old contract, and ASD(HA) added the Y2K clause where it was applicable. One delivery order contained the Y2K clause because it included computer hardware. The other delivery order did not contain the Y2K clause because it was for labor associated with computer services.

Testing Biomedical Devices. We recommended ASD(HA) perform sample tests for Y2K compliance, where possible, of biomedical devices deemed Y2K compliant by the manufacturer. The tri-service process action team that reports to the ASD(HA) staff was working jointly with major civilian health care organizations to validate Y2K compliance determinations made by selected manufacturers. (See Manufacturer Y2K Validation Testing in the Finding section of this report for details.) We believe that approach is an effective and efficient method of testing and validating biomedical devices.

Guidance on Facility Devices. We recommended that ASD(HA) monitor Y2K compliance of facility devices and direct the Military Department Surgeons General to require that MTF commanders coordinate with installation

commanders to ensure that facility devices at MTFs are given the appropriate priority in the Y2K compliance process. ASD(HA) reviewed the updated facility device guidance issued by the Military Department Surgeons General and determined that the guidance includes a requirement for MTF commanders to coordinate medical facility issues with local installation commanders and to emphasize the priority of medical facility Y2K issues. The Military Department Surgeons General included the requirement in their updated facility device guidance. Additionally, the Military Department guidance requires installation commanders to ensure that tenant organizations, including MTFs, are included in the Y2K process.

Appendix C. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense (Comptroller)
  Deputy Chief Financial Officer
  Deputy Comptroller (Program/Budget)
Under Secretary of Defense for Personnel and Readiness
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 (Health Affairs)
Assistant Secretary of Defense (Public Affairs)
Director, Defense Logistics Studies Information Exchange

Joint Staff

Director, Joint Staff

Department of the Army

Office of the Surgeon General of the Army
Auditor General, Department of the Army
Inspector General, Department of the Army

Department of the Navy

Assistant Secretary of the Navy (Financial Management and Comptroller)
Office of the Surgeon General of the Navy
Auditor General, Department of the Navy
Inspector General, Department of the Navy
Inspector General, Marine Corps

Department of the Air Force

Assistant Secretary of the Air Force (Financial Management and Comptroller)
Office of the Surgeon General of the Air Force
Auditor General, Department of the Air Force
Inspector General, Department of the Air Force

Unified Commands

Inspector General, U.S. Atlantic Command
Inspector General, U.S. European Command
Inspector General, U.S. Pacific Command

Other Defense Organizations

Director, Defense Contract Audit Agency
  Chief Information Officer, Defense Contract Audit Agency
Director, Defense Information Systems Agency
  Inspector General, Defense Information Systems Agency
  Chief Information Officer, Defense Information Systems Agency
Director, Defense Logistics Agency
Director, National Security Agency
  Inspector General, National Security Agency
Inspector General, Defense Intelligence Agency

Non-Defense Federal Organizations and Individuals

Office of Management and Budget
  Office of Information and Regulatory Affairs
  National Security Division Special Projects Branch
General Accounting Office
  National Security and International Affairs Division
    Technical Information Center
  Director, Defense Information and Financial Management Systems, Accounting and
    Information Management Division
Inspector General, General Services Administration
Inspector General, Department of Health and Human Services
Inspector General, Department of Veterans Affairs

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 Subcommittee on Defense, Committee on Appropriations
House Committee on Armed Services
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

Military Health System Chief Information Officer Comments

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, DC 20301-1200

MAY 26 1999

MEMORANDUM FOR DEPUTY INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

SUBJECT: Audit Report on Year 2000 Computing Issues Related to Health Care in DoD-Phase II (Project No. 8LF-5013.01)

Reference is made to the Director, Readiness and Logistics Support Directorate memorandum, dated 10 May 1999, subject as above. The DoD Inspector General Draft Audit Report documents the results of a Health Care Y2K audit conducted by the DoD IG. We appreciate your staff's cooperation and partnership in addressing the Y2K issues.

On 23 April 1999, we formally submitted a response to your Discussion Draft and have aggressively implemented the management actions indicated in Appendix B of the report, attachment 1. We continue to pursue those actions vigorously and invite your team to revisit them at any time. Attachment 2 includes additional responses to the draft report findings for inclusion in the final report.

Should you require additional information, my point of contact is Ms. Clarissa Reberkenny, Director, Technology Management, Integration and Standards. Ms. Reberkenny can be reached at (703) 681-8823 or by e-mail at Clarissa.Reberkenny@tma.osd.mil.

James C. Reardon
Military Health System
Chief Information Officer

Attachments:
As stated

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

APR 23 1999

MEMORANDUM FOR DEPUTY INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

SUBJECT: Management Actions Taken Concurrent to Inspector General Year 2000 Audit-Phase II

The evolving nature of Year 2000 (Y2K) issue as well as the equally dynamic approaches used to address the issue foster an environment of joint problem definition and problem solving. The DoD Inspector General (IG) Discussion Draft, Phase II documents the results of a Health Care Y2K audit conducted by the DoD IG. This audit was conducted in an atmosphere of partnership and cooperation. As issues surfaced during the audit, immediate actions were taken to implement policy and procedures to address those issues. Significant IG findings and the present Office of the Assistant Secretary of Defense (Health Affairs) actions initiated during the audit are attached.

I recognize the professional and cooperative approach taken by members of the IG staff and would like to express my appreciation for their efforts in addressing the complex and pressing problem.

Should you require additional information, my point of contact is Ms. Clarissa Reberkenny, Director, Technology Management, Integration and Standards. Ms. Reberkenny can be reached at (703) 681-8823 or by e-mail at Clarissa.Reberkenny@tma.osd.mil.

James C. Reardon
Military Health System
Chief Information Officer

Gary A. Christopherson
Principal Deputy Assistant Secretary

Attachment:
As stated

OASD(HA) Responses to the DoD Inspector General Findings

IG Finding:
Increase oversight of non-compliant biomedical devices by expanding monthly status reporting to include whether contingency plans exist for each device.

OASD(HA) Response:
As indicated by the audit report, OASD(HA) monthly centralized reporting requirements and procedures were put in place in December 1998 to provide centralized oversight of all non-compliant devices and systems to include: a list of non-Y2K-compliant devices/system, by site and location, and the date the item will be removed, repaired or replaced. Although a formal OASD(HA) requirement for documenting the existence of a contingency plan for each device was not made in the 7 December 1998 memorandum, the Army and Air Force Medical Departments separately required contingency plans, and have tracked that additional information for non-compliant equipment. The Navy Medical Department is currently undertaking the creation of a web-enabled database to centralize the additional information.

IG Finding:
Increase oversight of non-compliant biomedical devices by expediting the implementation of the Year 2000 Readiness Assessment Team Evaluations.

OASD(HA) Response:
OASD(HA) is committed to the independent assessment of medical treatment facility's readiness for Year 2000. As indicated in the audit report, concepts of operation are formulated and being refined for a complete assessment of individual site's Year 2000 readiness to include facility equipment, information systems and biomedical equipment. Implementation of site assessments will be expedited to ensure feedback to sites and senior management for action as necessary.

IG Finding:
Establish a deadline that would provide sufficient time for the removal of non-compliant biomedical devices from service before 2000.

OASD(HA) Response:
OASD(HA) has taken the position that all non-Y2K-compliant equipment will be removed from service prior to Year 2000. The deadline for removing non-compliant equipment prior to Year 2000 must be balanced with the unnecessary risk to patient care from the removal of functioning equipment long in advance of its known failure. To this end, OASD(HA) will continue to monitor the inventories of non-compliant equipment through the monthly reports submitted by the Service Medical Departments to determine a deadline, in advance of Year 2000, that provides confidence that the devices can be safely removed without risks to patient care.

Attachment

IG Finding:
Increase the accuracy of Navy non-compliant biomedical device reports to senior management by reconciling the MLC and MTF databases.

OASD(HA) Response:
The Navy Medical Department has undertaken the creation of a web-enabled database to centralize the additional information with the MTFs having responsibility to update this central database of equipment on a real-time basis. The creation of this central, web-enabled repository of biomedical device information at Navy sites will eliminate the discrepancies in local and central Navy information and will serve as the basis of information presented to senior management.

IG Finding:
Improve the presentation of compliant biomedical device reports by disclosing varying methodologies of data collection used.

OASD(HA) Response:
Throughout the Year 2000 process, OASD(HA) and Service senior leaders have focused on the quantity and mix of non-Y2K compliant devices still in service at the MTFs. The differing methodologies used by the Service Medical Departments to establish the baseline inventory of biomedical devices does not alter the quantity and mix of devices that remain non-compliant. OASD(HA) has taken action to ensure presentations attest to the differences in the baselines when summarizing compliance information in percentages.

Attachment

OASD(HA) Responses to the DoD Inspector General Findings

IG Recommendation 1a:
Increase oversight of non-compliant biomedical devices by expanding monthly status reporting to include whether contingency plans exist for each device.

OASD(HA) Response (concur):
To increase centralized oversight, OASD(HA) monthly reporting requirements and procedures were put in place in December 1998, requiring the Service Medical Departments to provide a listing of all non-compliant devices and systems to include: the non-Y2K-compliant devices/system, by site and location, and the date the item will be removed, repaired or replaced. The report is being expanded to include a field to indicate the existence of a contingency plan for each device listed.

IG Recommendation 1b:
Increase oversight of non-compliant biomedical devices by expediting the implementation of the Year 2000 Readiness Assessment Team Evaluations.

OASD(HA) Response (concur):
As an oversight measure, each Service Medical Department is conducting independent assessments and assistance visits to their respective facilities that best matches the existing programs and practices of each Service. The Army Medical Command selected 12 MTFs for OASD(HA) Y2K readiness assessment team evaluation with a projected completion date of October 01, 1999. The Navy Medical Department will conduct independent assessment and assistance to sites through an approach that combines the Navy Medical Inspector General team and an augmentation team, with OASD(HA) participation. The Navy is scheduling 14 sites: June through October 1999. The Air Force Medical Department approach consists of Air Force Inspection Agency (AFIA) establishment of "Y2K Medical Unit Compliance" as a Special Emphasis Item (SEI). AFIA has scheduled site evaluations at 17 Air Force Medical locations, with eight locations already completed. In all cases, lessons learned and best practices from visits will be shared with MTFs, across Services and senior management.

IG Recommendation 2:
Establish a deadline that would provide sufficient time for the removal of non-compliant biomedical devices from service before 2000.

OASD(HA) Response (concur):
All non-Y2K-compliant equipment will be removed from service prior to Year 2000. However, a deadline for removing non-compliant equipment prior to Year 2000 must be balanced with the unnecessary risk to patient care from the removal of functioning equipment long in advance of its known failure. OASD(HA) will monitor the execution of Y2K repair, replacement or removal of non-compliant equipment through the reports submitted by the Service Medical Departments and determine a deadline in advance of 1 January 2000. The deadline will be established commensurate with the number of non-Y2K-compliant items in the inventory as we approach the millennium.

Attachment 2

IG Recommendation 3:
Increase the accuracy of Navy non-compliant biomedical device reports to senior management by reconciling the MLC and MTF databases.

OASD(HA) Response (concur):
The Navy Medical Department established a web-enabled database on 22 May 1999 to centralize the Navy medical biomedical equipment information with Navy Medical Treatment Facilities responsible to update this central database of equipment on a real-time basis. The creation of this central, web-enabled repository of biomedical device information will eliminate the discrepancies in local and central Navy information and will serve as the basis of information presented to senior management.

IG Recommendation 4:
Improve the presentation of compliant biomedical device reports by disclosing varying methodologies of data collection used.

OASD(HA) Response (concur):
OASD(HA) is providing briefing material that specifically discloses the differences in Service methodologies of data collection for biomedical devices. Additionally, OASD(HA) has prepared graphs that focus management attention to the number of non-Y2K-compliant items remaining in inventory by Service and the monthly plan for repair, removal, or replacement through the rest of the year.

Attachment 2

Audit Team Members

The Readiness and Logistics Support Directorate, Office of the Assistant Inspector General for Auditing, DoD, produced this report.

Shelton R. Young
Raymond D. Kidd
Michael A. Joseph
Sanford W. Tomlin
James A. O'Connell
Robert T. Briggs
G. Paul Johnson
Eva M. Zahn