Audit Report

ARMY RESEARCH LABORATORY PREPARATION
FOR YEAR 2000

Report No. 99-036 November 13, 1998

Office of the Inspector General
Department of Defense

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Acronyms

AMC	Army Materiel Command
ARL	Army Research Laboratory

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

November 13, 1998

MEMORANDUM FOR AUDITOR GENERAL, DEPARTMENT OF THE ARMY

SUBJECT: Audit Report on Army Research Laboratory Preparation for Year 2000 (Report No. 99-036)

We are providing this draft report for information and use. We considered management comments on a draft of this report when preparing the final report.

Comments from the Acting Deputy Assistant Secretary of the Army for Research and Technology concurred with the recommendations and 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. Raymond A. Spencer at (703) 604-9071 (DSN 664-9071) or Mr. Roger H. Florence at (703) 604-9067 (DSN 664-9067). See Appendix B for the report distribution. The audit team members are listed inside the back cover.

Robert J. Lieberman
Assistant Inspector General
for Auditing

Office of the Inspector General, DoD

Report No. 99-036 **November 13, 1998**
(Project No. 8AB-0030.02)

Army Research Laboratory Preparation for Year 2000

Executive Summary

Introduction. This report is one in 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 in addressing the year 2000 computing problem. 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 cost. With the two-digit format, however, the year 2000 is indistinguishable from 1900. As a result of the ambiguity, computers, associated systems, and application programs that use dates to calculate, compares, and sort could generate incorrect results when working with years after 1999.

Audit Objectives. The overall audit objective was to determine whether the Army Research Laboratory is adequately preparing its information technology systems to resolve date-processing issues regarding the year 2000 computing problem. Specifically, the audit determined whether the Army Research Laboratory complied with the DoD Year 2000 Management Plan and the Army Year 2000 Action Plan.

Audit Results. The Army Research Laboratory has not completed a comprehensive inventory of information technology systems, examined ongoing research efforts for a potential year 2000 impact, and reviewed contracts to ensure the systems are year 2000 compliant. In addition, the Army Research Laboratory has not met the required timeframes of the Army Year 2000 Action Plan for identifying and assessing year 2000 problems. As a result, the Army Research Laboratory cannot ensure that information technology systems and ongoing research efforts will not have year 2000 date-processing problems.

Summary of Recommendations. We recommended that the Director, Army Research Laboratory, complete a comprehensive inventory of all hardware, software, and firmware as required by Army guidance; review all information technology research efforts for the potential year 2000 impact; and review all contracts for inclusion of the year 2000 contract provision.

Management Comments. The Acting Deputy Assistant Secretary of the Army for Research and Technology concurred with the finding and recommendations. See Part I for a summary of management comments and Part III for the complete text of the comments.

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Part I - Audit Results

Audit Background

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

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

The Deputy Secretary of Defense issued the memorandum "Year 2000 (Y2K) Verification of National Security Capabilities" on August 24, 1998. The memorandum states that the Chief of Staff of the Army must certify that they have tested the information technology and national security system year 2000 capabilities of their respective Component's systems in accordance with the DoD Management Plan.

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

Department of the Army Year 2000 Action Plan. The Army Year 2000 Action Plan (the Army Action Plan) implements the DoD Management Plan. The Office of the Director of Information Systems for Command, Control, Communications and Computers, who is responsible for providing assistance and oversight and for monitoring the progress of Army-wide year 2000 management activities, issued the Army Action Plan to outline the Army's year 2000 management strategy, provide guidance, define roles, responsibilities, and reporting requirements, and lay a foundation to ensure that no mission-critical failure occurs due to year 2000 related problems. The Army Action Plan allows for centralized management with decentralized execution focusing on critical systems. It discusses each of the five phases identified in the DoD Year 2000 Management Plan and establishes the Army's target completion dates for each phase. The five phases are discussed as follows:

- Phase I - Awareness. Education, initial organization, and planning take place. Corporate strategies are developed. Year 2000 responsible officials are identified and educated for all organizations within the Army. System users and owners are identified and educated. Target completion of the awareness phase was December 1996.

- Phase II - Assessment. Determine the impact of the year 2000 on the organization's inventory including hardware, software, and firmware, and develop acceptable solutions; estimate resource requirements to accomplish year 2000 solutions; and develop contingency plans. One hundred percent of the systems and devices are inventoried and analyzed for year 2000 compliance. Target completion of the assessment phase was March 1997.

- Phase III - Renovation. Correct the year 2000 problems for each system. Target completion of the renovation phase was September 1998.

- Phase IV - Validation. Test and verify the correctness of the renovated or replaced systems. All systems, including those assessed as having no year 2000 impact, must undergo the validation process. Target completion for the validation phase is December 31, 1998.

- Phase V - Implementation. Systems are fully operational after being certified as year 2000 compliant. Target completion date is December 31, 1998.

Army Research Laboratory. The Army Research Laboratory (ARL) is a subordinate command of the Army Materiel Command (AMC). The ARL conducts broad-based scientific research and advanced technological developments for increased automation of land warfare material, digital battlefields, sensors, and software engineering and database technologies. It is organized into five directorates and two centers conducting research and development in five locations throughout the United States. The ARL has cooperative agreements with three major private sector components in technical subareas of digitization and individual partnerships with universities in selected technical areas.

Audit Objectives

The primary audit objective was to determine whether ARL was adequately preparing its information technology systems to resolve date-processing issues for the year 2000 computing problem. Specifically, the audit determined whether ARL had complied with the DoD Year 2000 Management Plan and the Army Action Plan. Appendix A describes the audit scope and methodology, the results of the management control program review, and the prior audit coverage.

Status of the Army Research Laboratory Year 2000 Program

The Army Research Laboratory did not complete a comprehensive inventory of information technology systems, did not examine ongoing research efforts for a potential year 2000 impact, and did not review contracts to ensure they included a year 2000 compliant clause. In addition, ARL had not met the timeframes for identifying and assessing year 2000 problems required by the DoD Year 2000 Management Plan and the Army Action Management Plan. The conditions existed primarily because ARL management did not devote sufficient attention to the potential year 2000 problem. As a result, ARL cannot yet ensure that its information technology systems and ongoing research efforts will not have year 2000 date-processing problems.

Awareness

The ARL completed the awareness phase of the Army Action Plan, although not by December 1, 1996, as required. The awareness phase was to identify and educate Army organization personnel, as well as system users and owners, on year 2000 concerns and to demonstrate upper-level management support for individual Army organizations.

The ARL began its year 2000 program in 1996 with the Chief, Automation Division Corporate Information and Computing Center, creating a website, which contained year 2000 system certifications, programs to determine year 2000 compliance, patches for repairing year 2000 computer problems, bulletins and other Government and industry year 2000 information. On March 2, 1997, the ARL Director designated a year 2000 Program Manager to be responsible for all year 2000 tasking; generate, collect and analyze all responses to year 2000 surveys; and respond to all year 2000 inquiries.

In a March 3, 1997, memorandum to all ARL personnel, the ARL Director identified the year 2000 Program Manager and emphasized the importance of addressing year 2000 efforts at ARL. The Director requested each member of the ARL workforce to work with the year 2000 Program Manager and identify and fix ARL information assets.

In May 1997, the year 2000 Program Manager developed the Year 2000 Action Plan, which provides the corporate strategy and management approach to the year 2000 problem. The ARL Action Plan assigned the Director of the Corporate Information and Computing Center with the overall responsibility for its year 2000 effort.

In July 1997, ARL designated 21 positions whose performance standards were modified to include year 2000 responsibilities; nine positions were in the Corporate Information and Computing Center, eight were directors, and four were managers.

In a December 1997 memorandum, the Director of Corporate Information and Computing Center requested directorates to designate an official in each directorate to be responsible for coordinating year 2000 actions. However, all directorate year 2000 officials did not take an active role in coordinating, conducting, and assessing year 2000 efforts until June 1998, after AMC re-emphasized the requirement for ARL to develop an inventory of all hardware, software, and firmware systems.

Inventory and Assessment

The Army Action Plan states that the organization must determine the impact of the year 2000 on the organization's activities during the assessment phase. It requires the assessment phase to include a complete inventory of all hardware, software, and firmware for technical, business, and infrastructure areas, and all internal and external system interfaces; requires the system to be reviewed for year 2000 compliance; requires organizations to develop a year 2000 contingency plan for noncompliant systems; and requires organizations to identify costs associated with resolving year 2000 problems. The Army Action Plan recommends that organizations complete the assessment phase by June 30, 1997.

The ARL did not develop the comprehensive inventory of hardware, software, and firmware systems required by the Army Action Plan. Although officials distributed year 2000 questionnaires for an initial inventory of systems and an assessment of the year 2000 impact on the systems, all ARL personnel did not respond to the questionnaire.

Inventory Request Response. The Director, ARL, issued a memorandum on March 3, 1997, that requested each member of the ARL workforce to survey, inventory, and assess each information asset and to complete an attached ARL year 2000 questionnaire by March 27, 1997. Although the responses identified 12,631 systems and equipment, less than 50 percent of ARL personnel responded. At the time of the audit, ARL was conducting a comprehensive inventory at the direction of AMC, as required by the Army Action Plan.

Assessment of Systems and Equipment. The ARL officials reported to AMC that they assessed the 12,631 systems and equipment identified in its initial inventory. Of the 12,631 systems, 12,497 were infrastructure systems (personal computers, software and related equipment), 107 were weapon and scientific systems, 22 were automated information systems having business applications, and 5 were facility systems.

Infrastructure: Personal Computers, Software, and Related Equipment. The initial assessment of the 12,497 personal computer, software and related equipment of ARL's infrastructure identified that many of the systems were not year 2000 compliant. Under direction, guidance, and monitoring by AMC, ARL started to make the computers year 2000 compliant with a computer patch or obtained software-vendor-compliant statements.

Weapon and Scientific Systems. ARL officials inventoried and assessed 107 scientific systems including current research efforts and laboratory equipment for weapon and scientific systems. Seventy of the systems were commercial-off- the-shelf software operating on five types of supercomputer. ARL officials verified that the software and supercomputers were compliant by obtaining year 2000 compliance certifications from the vendors. The remaining 32 systems are composed of 10 scientific software systems and 22 classes of laboratory equipment systems. Officials determined that nine of the scientific software systems were year 2000 compliant and one was still being assessed. The ARL officials determined that the laboratory equipment was either compliant, was not date dependent, or could be manually adjusted.

Automated Information Systems. Of the 22 systems identified as having business applications, ARL disposed of 10, replaced 6 as normal system upgrades, and will make 6 systems year 2000 compliant at an estimated cost of $126,000.

Facilities. The ARL identified five facility systems that include elevators, water meters, environmental control systems, cardkey (badge) systems, and intrusion detection systems. Three of the five facility systems were compliant and the remaining two were noncompliant (the cardkey and the intrusion detection systems). ARL will use a manual key system if the planned replacement cardkey system is not installed in time. The intrusion detection system was still being assessed by ARL officials; however, ARL will use a security force if the system is not compliant by December 31, 1999.

ARL officials stated that an additional inventory of facilities is needed because its inventory of five systems may not be all-inclusive.

Test Plan. The ARL plans to test computer hardware and software, weapon systems, and other automated or microprocessor-controlled research and development equipment with AMC-approved year 2000 software and testing procedures, which are included in the AMC year 2000 certification checklist. The AMC requires ARL to complete the checklists as part of the certification process.

Cost Plan. The ARL identified limited costs associated with year 2000 compliance because it was ARL policy to maintain the latest computer technology systems. The cost of replacing systems was considered normal maintenance costs. ARL officials estimated that $126,000 would be necessary to make the six business systems year 2000 compliant.

Mission Criticality. During its assessment of the 12,631 systems, ARL officials determined that it had no mission-critical systems; however, ARL needs to complete its inventory and assessments.

Assessment of Current Research Projects. The ARL did not assess all ongoing research programs and their potential system interfaces or the systems to which the research programs may be applied. ARL conducts research and development programs by collecting, transmitting, and processing information to improve military operations. ARL has over 460 ongoing research projects, including efforts in the Information Technology Directorate. ARL identified 10 scientific software systems and assessed their year 2000 impact. Management officials stated that program managers or engineers did not examine the remaining research and development programs because ARL managers believe that the programs are too early in the development process to be assessed for year 2000 compliance.

The need to assess programs and their interface is illustrated in the Integrated Meteorological System. The ARL technicians developed software for the Integrated Meteorological System, which is a mobile, tactical weather forecasting system that uses dates to process and track weather-related information and creates messages for transmission. When Integrated Meteorological System Program officials questioned whether the ARL-developed software was year 2000 compliant, an official stated that ARL developed the software without year 2000 considerations and ARL cannot verify that software already delivered has no year 2000 problem. Subsequently, an Integrated Meteorological System contractor tested the ARL-developed software for year 2000 compliance and did not identify any 2000 issues. However, the hardware still has problems and officials planned to have the complete system year 2000 compliant by December 1998. The Integrated Meteorological System illustrates the need for ARL to review ongoing research for potential year 2000 date-processing problems including planned system interfaces.

Contracting

The Acting Assistant Secretary of Defense (Command, Control, Communication, and Intelligence) issued a policy memorandum to the Secretaries of the Military Departments and the Directors of the Defense agencies on "Acquisition of Year 2000 Compliant Information Technology (IT) and Bringing Existing IT into Compliance," December 18, 1997. The policy states that all information technology acquired by the Military Departments and Defense agencies shall be year 2000 compliant. The memorandum requires the review of contracts and other acquisition instruments for information technology equipment to determine whether modifications are necessary.

Earlier, the Vice Director, Office, Director of Information Systems for Command, Control, Communications and Computers, Department of the Army issued a September 11, 1996, memorandum that requested year 2000 language be required in all new and existing information technology contracts.

The ARL contracting office issued 175 contracts for a 22-month period ending July 1998. We randomly selected 29 of the 175 contracts for review and determined that 17 contracts acquiring information technology equipment did not include the year 2000 clause. Contracting officials stated that they did not formally review all information technology contracts as directed in the

December 18, 1997, memorandum from the Acting Assistant Secretary of Defense (Command, Control, Communication, and Intelligence). ARL should review all information technology equipment contracts to determine whether they should be modified for the year 2000 clause.

Conclusion

During our review, ARL was conducting an inventory of all hardware, software, and firmware for technical, business, and infrastructure areas in response to a specific tasking from AMC. In a memorandum to the ARL Directorates, the Director stated that AMC concluded that Army organizations applied insufficient attention to the year 2000 problem. We agree with the AMC assessment. Although ARL completed the awareness phase satisfactorily, personnel did not devote timely and sufficient attention to resolving its year 2000 problem. ARL is once again trying to develop a complete inventory of its systems and perform the necessary assessments. ARL needs to continue its inventory effort, review ongoing research efforts for a potential year 2000 impact, and review and modify existing and future contracts to include a year 2000 provision, where appropriate.

Recommendations for Corrective Action

We recommend that the Director, Army Research Laboratory:

1. Complete and assess a comprehensive inventory list of all Army Research Laboratory hardware, software, and firmware items for year 2000 compliance.

Management Comments. The Acting Deputy Assistant Secretary of the Army for Research and Technology concurred. He stated that the ARL will conduct a complete inventory and assessment by January 1, 1999. In addition, ARL has established a management oversight and quality control process to verify compliance and data validity.

2. Review all information technology research efforts, including any planned system interfaces, to determine whether they have a potential year 2000 impact, and initiate corrective action.

Management Comments. The Acting Deputy Assistant Secretary of the Army for Research and Technology concurred. He stated that the ARL will review all research programs for year 2000 compliancy and ARL will certify the software as year 2000 compliant when passed on to customers.

3. Review all existing and future information technology contracts or other acquisition instruments, and modify contracts for year 2000 compliance, where appropriate.

Management Comments. The Acting Deputy Assistant Secretary of the Army for Research and Technology concurred. He stated that the ARL identified about 180 contracts that needed the DoD-recommended year 2000 language and that the contracts would be modified by October 16, 1998.

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Part II - Additional Information

Appendix A. Audit Process

This in 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 year 2000 computing challenge. For a listing of audit projects addressing this issue, see the year 2000 webpage on IGnet at <http://www.ignet.gov>.

Scope

Work Performed. We reviewed and evaluated the progress of ARL in resolving the year 2000 computing issue. We evaluated its year 2000 efforts compared them actions with the Army Action Plan; conducted discussions with technical, business, and contracting officials; and evaluated year 2000 documentation where available.

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

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

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

Information Technology Management Functional Area.

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

General Accounting Office High Risk Area. In its identification of risk areas, the General Accounting Office has specifically designated risk in resolution of the year 2000 problem as high. This report provides coverage of that problem and of the overall Information Management and Technology high-risk area.

Methodology

Audit Type, Dates, and Standards. We performed this economy and efficiency audit from June through August 1998, in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD. We did not rely on computer-processed data or statistical sampling procedures to develop conclusions on this audit.

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

Management Control Program Review

We did not review the management control program for this audit because the Secretary of Defense Letter of Assurance for FY 1997 recognizes the year 2000 issue as a material management control weakness area.

Summary of Prior Coverage

The General Accounting Office, the Inspector General, DoD, and the Army Audit Agency have conducted multiple reviews related to year 2000 issues. General Accounting Office reports can be accessed over the Internet at http://www.gao.gov. Inspector General, DoD, reports can be accessed over the Internet at http://www.dodig.osd.mil. However, there were no prior reviews related to year 2000 at the Army Research Laboratory.

Appendix B. Report Distribution

Office of the Secretary of Defense

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

Department of the Army

Commander, Army Materiel Command
Director of Information Systems for Command, Control, Computers and Communications
Director, Army Research Laboratory
Chief Information Officer, Army
Inspector General, Department of the Army
Auditor General, Department of the Army

Department of the Navy

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

Department of the Air Force

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

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  Inspector General, Defense Information Systems Agency
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  Inspector General, National Security Agency

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Office of Information and Regulatory Affairs

Technical Information Center, National Security and International Affairs Division, General Accounting Office
Director, Defense Information and Financial Management Systems, Accounting and Information Management Division, General Accounting Office

Chairman and ranking minority member of each of the following congressional committees and subcommittees:

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 National Security, Committee on Appropriations
House Committee on Government Reform and Oversight
House Subcommittee on Government Management, Information, and Technology, Committee on Government Reform and Oversight
House Subcommittee on National Security, International Affairs, and Criminal Justice, Committee on Government Reform and Oversight
House Committee on National Security

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Part III - Management Comments

Department of the Army Comments

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
RESEARCH DEVELOPMENT AND ACQUISITION
103 ARMY PENTAGON
WASHINGTON DC 20310-0103

REPLY TO
ATTENTION OF

27 OCT 1998

SARD-TR

MEMORANDUM FOR INSPECTOR GENERAL, DEPARTMENT OF DEFENSE (AUDITING), 400 ARMY NAVY DRIVE (ROOM 801), ARLINGTON, VA 22202-2884

SUBJECT: Draft Audit Report on Army Research Laboratory Preparation for Year 2000 (Project No. 8AB-0030.02)

Reference DoD IG Memorandum, 18 September 1998, SAB.

The subject report and the Headquarters, U.S. Army Materiel Command response (see Enclosure) have been reviewed by this agency. This office concurs with the Major Command position on the audit, including the actions being taken by the Army Research Laboratory in response to the audit's recommendations.

Point of contact for this action is Dr. Thomas Killion, (703) 601-1535, e-mail: killiont@sarda.army.mil.

A. Michael Andrews II
Acting Deputy Assistant Secretary
for Research and Technology

Enclosure

CF:
ARMY AUDIT AGENCY (MS. RINDERKNECHT)

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY MATERIEL COMMAND
5001 EISENHOWER AVENUE, ALEXANDRIA, VA 22333-0001

REPLY TO ATTENTION OF

AMCIR-A (36-2a) 28 October 1998

MEMORANDUM FOR MR. J. M. ANDREWS, PROGRAM DIRECTOR, ORGANIZATIONAL EFFECTIVENESS, U.S. ARMY AUDIT AGENCY, 3101 PARK CENTER DRIVE, ALEXANDRIA, VA 22302-1596

SUBJECT: DODIG Draft Report, Army Research Laboratory Preparation for Year 2000, Project AB-0030.02 (AMC No. D9819)

1. We are enclosing our position on subject report IAW AR 36-2. We concur with the actions taken by U.S. Army Research Laboratory.

2. Point of contact for this action is Mr. Robert Kurzer, (703) 617-9025, e-mail - bkurzer@hqamc.army.mil.

3. AMC -- America's Arsenal for the Brave.

FOR THE COMMANDER:

Encl
as

NORMAN E. WILLIAMS
Major General, USA
Chief of Staff

Department of the Army Comments

DEPARTMENT OF THE ARMY
UNITED STATES ARMY RESEARCH LABORATORY
2800 POWDER MILL ROAD
ADELPHI, MARYLAND 20783-1197

REPLY TO
THE ATTENTION OF

AMSRL-IR (36-2b)

13 OCT 1998

MEMORANDUM FOR Commander, U.S. Army Materiel Command, ATTN: AMCIR-A
5001 Eisenhower Avenue, Alexandria, VA 22333-0001

SUBJECT: DODIG Draft Report, Army Research Laboratory Preparation for Year 2000, Project 8AB-0030.02 (AMC No. D9819)

1. Reference memorandum, HQ AMC, AMCIR-A, 1 Oct 98, SAB.

2. The subject report has been reviewed by responsible personnel at the Army Research Laboratory. Our response and proposed position on the finding and recommendations in the report are enclosed

3. POC for this information is Mr. Robert Davis on DSN 290-1498 or COMM (301) 394-1498.

for JOHN W. LYONS
Director

Encl
as

CF:
AMSRL-DD (Dr. J. Rocchio)
AMSRL-CI (Mr. C. Nietubicz)
AMSRL-CS (COL K. Logan)
AMSRL-CS-PR (Mr. R. Tomko)

ARL - A NATIONAL REINVENTION LABORATORY

U. S. ARMY RESEARCH LABORATORY
COMMAND REPLY

DODIG Audit on Army Research Laboratory Preparation for Year 2000

Finding: The Army Research Laboratory did not complete a comprehensive inventory of information technology systems, did not examine ongoing research efforts for a potential year 2000 impact, and did not review contracts to ensure they included a year 2000 compliant clause. In addition, ARL has not met the timeframes for identifying and assessing year 2000 problems required by the DoD Year 2000 Management Plan and the Army Action Management Plan. The conditions existed primarily because ARL management did not devote sufficient attention to the potential year 2000 problem. As a result, ARL cannot ensure that its information technology systems and ongoing research efforts will not have year 2000 date-processing problems

Additional Facts: The Army Research Laboratory did have an inventory in May 1998 that, while not wall to wall, was sufficiently complete to allow an assessment of ARL's readiness to deal with Year 2000. ARL concentrated on looking at and addressing the systems that were mission essential and chose to expend its limited resources there. This fit the DOD model of applying business judgement to mitigating the Y2K problems. While ARL is now performing an even more detailed inventory per the direction of AMC, the expected outcome in terms of Y2K problems important to the laboratory are expected to remain the same and allow ARL to cross the Y2K boundary with few if any problems. All major systems, including research projects likely to result in hand-off of software to soldiers or others were inventoried and assessed. ARL transfers research products by inserting it's software/systems into integration projects (e.g., Advanced Technology Demonstration (ATDs)) with the research and engineering centers. ARL did review contracts when information technology was a deliverable item but understood the scope of action to be more limited than the DoD IG did. There were many factors in the external and internal environment which contributed to conditions found by the DoD IG. Confusing and changing guidance, a tendency to assign the same priority to all facets of the problem were external factors which, when combined with internal management difficulties associated with the retirement of the CIO led to less than stellar performance. ARL management has put into action a high priority program which will overcome these previous difficulties and deliver a sound solution to the Y2K issue.

Recommendation 1: Complete and assess a comprehensive inventory list of all Army Research Laboratory hardware, software, and firmware items for year 2000 compliance.

Encl

Action Taken: Concur. ARL has (i) developed a comprehensive database to inventory and track compliance and manage future Y2K related actions as well as information assurance issues which are growing in importance; (ii) initiated a complete reinventory and assessment of all Y2K related hardware and software; (iii) put in place a management oversight process with a clear chain of responsibility and audit; and (iv) put in place a quality control (IRAC) process to verify compliance and validity of data. This review is to be completed by 1 Jan 1999.

Recommendation 2: Review all information technology research efforts, including any planned system interfaces, to determine whether they have a potential year 2000 impact, and initiate corrective action.

Action Taken: Concur. All research programs will be reviewed again for Y2K compliance issues. Further, ARL will certify their software/systems as Y2K compliant when research projects are completed and passed on to customers.

Recommendation 3: Review all existing and future information technology contracts or other acquisition instruments, and modify contracts for year 2000 compliance, where appropriate.

Action Taken. Concur. All existing ARL contracts have been reviewed for Y2K compliance by ARL technical, information technology and administrative personnel. As a result, we have identified approximately 180 contracts needing the DOD recommended Y2K language. We are currently in the process of modifying these contracts. We expect to have all modifications mailed to contractors by 16 Oct 98. Since these will be bilateral modifications requiring contractor signature, we expect to have everything finalized by 30 Oct 98.

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
Roger H. Florence
Robin G. McCoy

INTERNET DOCUMENT INFORMATION FORM

A . Report Title: Army Research Laboratory Preparation For Year 2000

B. DATE Report Downloaded From the Internet: 09/07/99

C. Report's Point of Contact: (Name, Organization, Address, Office Symbol, & Ph #): **OAIG-AUD (ATTN: AFTS Audit Suggestions)**
Inspector General, Department of Defense
400 Army Navy Drive (Room 801)
Arlington, VA 22202-2884

D. Currently Applicable Classification Level: Unclassified

E. Distribution Statement A: Approved for Public Release

F. The foregoing information was compiled and provided by:
DTIC-OCA, Initials: __VM__ **Preparation Date 09/07/99**

The foregoing information should exactly correspond to the Title, Report Number, and the Date on the accompanying report document. If there are mismatches, or other questions, contact the above OCA Representative for resolution.